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AMAZING STORIES

HUGO GERNSBACK
EDITOR

Stories by
H. G. WELLS
JULES VERNE
GARRETT P. SERVISS

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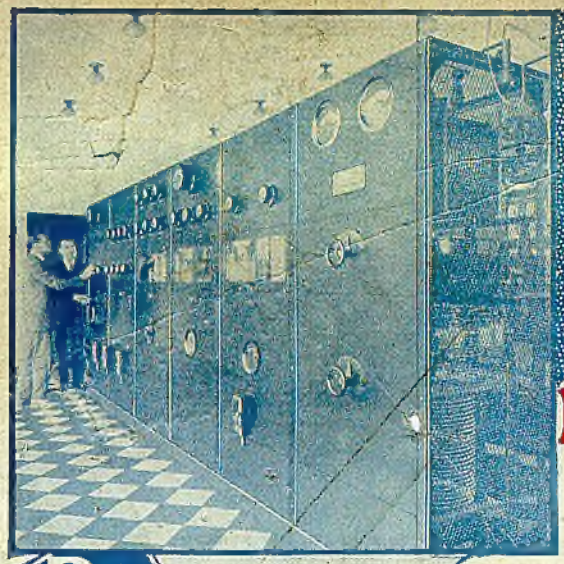

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VOLUME 1

AMAZING STORIES

THE MAGAZINE OF SCIENTIFICTION

JULY, 1926 NO. 4

HUGO GERNSBACK, *Editor*
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Extravagant Fiction Today - - - - - - - - Cold Fact Tomorrow

FICTION VERSUS FACTS

By HUGO GERNSBACK

A FEW letters have come to the Editor's desk from some readers who wish to know what prompts us to so frequently preface our stories in our introductory remarks with the statement that this or that scientific plot is not impossible, but quite probable.

These readers seem to have the idea that we try to impress our friends with the fact that whatever is printed in AMAZING STORIES is not necessarily pure fiction, but could or can be fact.

That impression is quite correct. We DO wish to do so, and have tried to do so ever since we started AMAZING STORIES. As a matter of fact, our editorial policy is built upon this structure and will be so continued indefinitely.

The reason is quite simple. The human mind, not only of today, but of ten thousand years ago also is and was so constituted that being merged into the present it can see neither the past nor the future clearly. If only five hundred years ago (or little more than ten generations), which is not a long time as human progress goes, anyone had come along with a story wherein radio telephone, steamships, airplanes, electricity, painless surgery, the phonograph, and a few other modern marvels were described, he would probably have been promptly flung into a dungeon.

All these things sounded preposterous and the height of nonsense even as little as one hundred years ago, and, lo and behold! within two generations we take these marvels and miracles as everyday occurrences, and do not get in the least excited when we read of recent reports that it will be possible, within a year or less, to see as well as hear your sweetheart a thousand miles away, without intervening wires or connections of any sort.

So when we do read one of these to us "impossible" tales, in AMAZING STORIES, we may be almost certain that the "impossibility" will have become a fact perhaps before another generation—if not much sooner. It is most unwise in this age to declare anything impossible, because you may never be sure but that even while you are talking it has already become a reality. Many things in the past which were declared impossible, are of everyday occurrence now.

There are few stories published in this magazine that can be called outright impossible. As a matter of fact, in selecting our stories we always consider their possibility. We reject stories often on the ground that, in our opinion, the plot or action is not in keeping with science as we know it today. For instance, when we see a plot wherein the hero is turned into a tree, later on into a stone, and then again back to himself, we do not consider this science, but, rather, a fairy tale, and such stories have no place in AMAZING STORIES.

Of course once in a great while an author may take some liberties, as happened, for instance, in the conclusion of "A Trip to the Center of the Earth," printed in this issue.

Jules Verne brought back his heroes in a most improbable manner. But this one defect does not detract from the story as a whole, throughout which good science is maintained. It is only when the entire plot becomes frankly impossible, or far too improbable, that we draw the line.

And it should never be forgotten that the educational value of the scientifiction type of story is tremendous.

Mr. G. Peyton Wertenbaker, author of "The Man from the Atom," says this on the same subject:

"AMAZING STORIES should appeal, however, to quite a different public (referring to the sex-type of literature). Scientifiction is a branch of literature which requires more intelligence and even more æsthetic sense than is possessed by the sex-type reading public. It is designed to reach those qualities of the mind which are aroused only by things vast, things cataclysmic, and things unfathomably strange. It is designed to reach that portion of the imagination which grasps with its eager, feeble talons after the unknown. It should be an influence greater than the influence of any literature I know upon the restless ambition of man for further conquests, further understandings. Literature of the past and the present has made the mystery of man and his world more clear to us, and for that reason it has been less beautiful, for beauty lies only in the things that are mysterious. Beauty is a groping of the emotions towards realization of things which may be unknown only to the intellect.

"Scientifiction goes out into the remote vistas of the universe, where there is still mystery and so still beauty. For that reason scientifiction seems to me to be the true literature of the future.

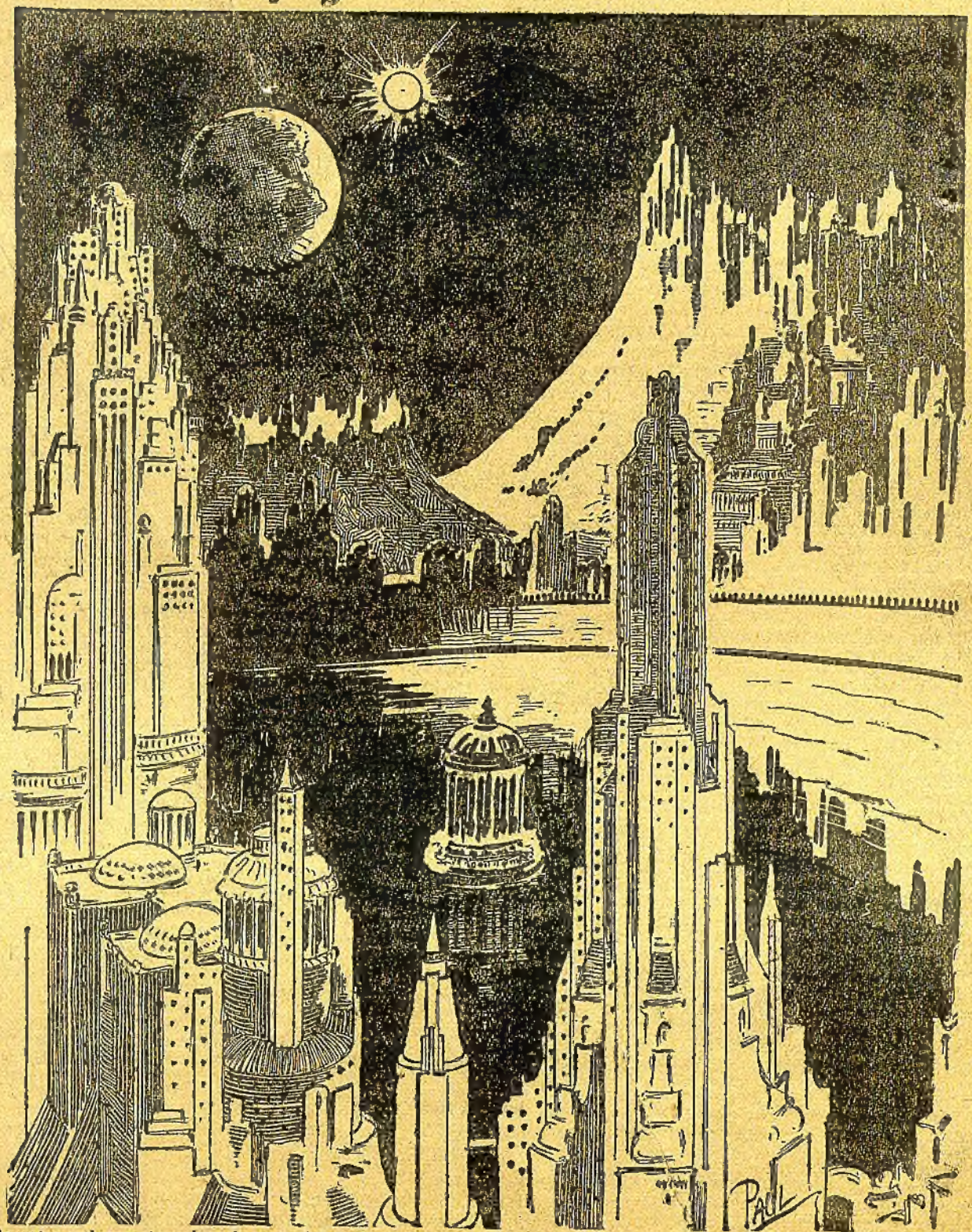
"The danger that may lie before AMAZING STORIES is that of becoming too scientific and not sufficiently literary. It is yet too early to be sure, but not too early for a warning to be issued amicably and frankly.

"It is hard to make an actual measure, of course, for the determination of the correct amount of science, but the æsthetic instinct can judge. I can only point out as a model the works of Mr. H. G. Wells, who has instinctively recognized, in his stories, the correct proportions of fiction, fact, and science. This has been possible only because Mr. Wells is a literary artist above everything, rather than predominantly a scientist. If he were a scientist, his taste and sense would permit him only to write books of scientific research. Since he is an artist, he has given us the first truly beautiful work in this new field of literature."

These opinions, we believe, state the case clearly. If we may voice our own opinion we should say that the ideal proportion of a scientifiction story should be seventy-five per cent literature interwoven with twenty-five per cent science.

STATION X

By G. McLeod Winsor



"As water, and even atmosphere, began to fail the Lunarians, the enormous circular reservoirs they made for its conservation, and which must be so plainly visible from your earth, stand to this day, in their roofless ruin, everlasting monuments to their abilities."

CHAPTER I

The New Post

AS Alan Macrae watched the last hues of the sunset from Plymouth Hoe pale over Mount Edgcumbe, he stood out in marked contrast to the stolid West Country types around him. His tall loose-limbed figure, his brooding gaze, his nervous highly-strung manner, marked him as a stranger. A touch on the arm recalled him from his apparently sombre thoughts—the touch of a girl who had approached him unobserved.

At the sight of her his melancholy vanished.

"I'm so sorry I'm late, Alan," she cried gaily, "but the manager had a fit."

"A fit?" questioned Macrae.

"Yes, of work," exclaimed the girl: "and he kept me doing letters, quite indifferent to the fact that this is our last night together. Let's walk, shall we?"

As they walked slowly along the Hoe, the contrast between the two was remarkable. The brisk alertness of May Treherne seemed to accentuate her companion's moodiness and psychic gloom.

They had been engaged for a year, and were waiting only for Fortune to smile upon them to get married. As May had expressed it, "Bread and cheese and love are all right; but you must be sure of the bread and cheese."

Macrae had by sheer merit obtained an appointment at "a foreign radio station." That was all he knew, beyond the fact that the salary was a handsome one. On the morrow he was to start for his unknown destination, where for a period of six months he would be lost to the world. He would be allowed neither to send nor to receive letters, and was sworn to divulge nothing as to where he had been or upon what engaged.

"Perhaps I've been a fool to take the post," he said, looking down at his companion with pessimistic eyes.

"That's not flattering, Alan," said the girl gaily, determined to cheer him out of his gloomy mood. "You did it so that we could——" She paused.

"Get married," he concluded the sentence for her. "Yes, I know; but think of six months without you, in a place that I know nothing about."

"Cheer up, Alan!" cried May brightly. "It'll soon pass. It was splendid of you to accept it. I'm tired of Sales, Limited, and still more tired of its manager. He's such a moth-eaten little worm."

"Well, yes, you are right, May. The time will seem long, no doubt; but as it carries double pay I ought not to grumble." He smiled down at her, adding, "That it will bring a certain day nearer is the best part of it."

"Meanwhile," said May, "I shall picture you leading a sort of lighthouse existence, and in off-duty moments thinking about me." As she spoke her eyes rested on the beam of Eddystone, which the gathering darkness already made plainly visible off the Cornish coast.

Discussing the Dangers at Station X

"YOU are right! On duty and off, my thoughts will run pretty much on you, dear," he said.

"Now, Alan, tell me why you aren't, or should I say weren't, a bit cheerful this evening. It's a compliment, of course, but is there anything that's worrying you?" She looked up at him inquiringly.

"I suppose I've got the blues. I find myself oppressed with the feeling that something is going to happen. I can't tell what, but I feel that the future holds something dark and horrible."

"Tell me, Alan, dear, do you know of anything in your coming duties that suggests danger to you? Will you be among savages? Has anything happened to any one at the post? Or is it only just a feeling?"

"It rests on nothing, but——"

"Then for goodness sake, my dear boy, don't worry yourself about nothing," said May, with relief. "Here," wheeling him around, "let us face the wind, and it will blow such cobwebs out of your head."

She cast about in her mind how to hearten her lover, and her eye caught sight of the statue of Sir Francis Drake.

"Did you ever hear of Drake, Alan?" she asked, thinking it possible that he might not, knowing his educational shortcomings, for which she had decided that the future should yet make amends.

As they approached the statue, she told him about Drake and that immortal game her favorite hero had played on this spot, of the threatening danger, and how the great Devonian refused to let the breathless messenger worry or even hurry him.

The Celt, ever quick of apprehension and self-application, had no need for the point to be labored.

"Different men have different natures," said Macrae, in a restrained voice. "It does not follow that any one kind has all the courage. It is

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WE are beginning in this issue, STATION X, which we consider by far the greatest radio story that was ever written. At least we have never read or seen a better one. Lest you believe that it is impossible for one being to interchange his mind with that of another and thereby control him physically, please consider the following:

In 1923 the publishers of this magazine, in conjunction with Station WHN, of New York City, then located at Ridgewood, L. I., and Mr. Joseph H. Dunninger, performed the following experiment:

On the morning of July 14, 1923, a subject was placed in front of the loud speaker in RADIO NEWS LABORATORIES at 53 Park Place, New York City. Mr. Dunninger was at the broadcast station WHN, and by commanding the subject, a young man, Mr. Leslie B. Duncan, to fall asleep, he impressed his will upon the subject, from a distance of over fifteen miles, until the latter fell into a hypnotic trance.

The subject was examined by over twelve newspaper reporters assembled at 53 Park Place. Long needles were stuck through the subject's arm, (drawing no blood) and then Dunninger, from a distance, commanded Duncan to fall into a cataleptic state, which prevailed for about half an hour. The subject finally was brought again to his senses by Mr. Dunninger's commands issuing out of the loud speaker.

Hypnotizing by radio was therefore proclaimed a success. A full account of the experiment may be found in the September, 1923, issue of SCIENCE AND INVENTION.

me to say if I would also have done my duty then, but this I know, I would not have been able to finish that game of bowls. It's all a question of nerves. As to the other matter, I knew you would not understand. You are a town girl, and I am from the lonely glen. There are some things that are only to be felt. The forest, the stream, the rocks and the mountain, can teach something to a child that cannot be learned later. It's a sort of sixth sense. Some of us have it. I don't claim to, myself, yet I feel the approach of a cloud. As a boy I loved to wander alone, listen to the roaring torrent, climb the steep precipices of the mountain-side, and often when up at cloud level, I have watched a great fleecy mass approaching, slowly while in the distance, but seemingly faster and faster as it came near. Then suddenly it would swallow me up. Well, dearest May, there is a cloud approaching now that is destined to swallow me up; no light and fleecy mass, but dark and terrible, full of lightnings and of danger, and I do not see myself liberated from its embrace."

A Great Opportunity

"ALAN, dear, do not keep anything from me. If you know anything dangerous connected with your new post, tell it to me. You say you value this opportunity because it brings a certain day nearer. As you are going away, I'll confess that it is for the same reason I too value it. When your position is established, we can be so happy together. At present, as you know, I am anything but that. Yet, I would far rather you threw it all up if there is any special danger."

"If there is, I know nothing about it," he replied, with a smile. "Unfortunately, you discovered my mood, and made me tell you of this impression, which really rests on nothing. But," he added hastily, "let's talk of other things."

May sighed as she recognized it would be useless to say more on the subject. She knew Macrae's highly-strung nervous temperament, but also that in all circumstances he would be sure to do his duty. She could not understand his forebodings; but recognizing that the moment of parting was drawing near, she allowed the subject to drop.

Alan Macrae had been a poor, half-starved youth from the Highlands, who had by mere chance been engaged in an unskilled capacity at the Marconi station of wireless telephony that the Government had established on the north-east coast of Scotland. He had shown such willingness, industry and interest in the working of the station, that opportunity had been given him to acquire further knowledge of it. The advantage he took of this was so satisfactory that he had been given every encouragement and chance to perfect himself. After some years, he had become one of the most competent wireless electricians on Marconi's staff. A chance discovery had then caused his transference to Poldhu in Cornwall.

When radio telephony was in its infancy it was no easy matter to catch the words, and acute hearing was absolutely necessary to the operator. To a certain extent it still is, for there is always a zone surrounding any station, near the limit of audibility, where acuteness of hearing makes all the difference between the possibility and impossibility of communication. It was found that Macrae's endowment in this respect was little short of phenomenal, and this it was that caused him to be sent to the Cornish station used for transatlantic messages. Later it had been one of the reasons, combined with his steadiness and competence, that had caused him to be selected for this mysterious Government appointment.

When the moment approached for going on board the cruiser that was to transport him to his unknown destination, May Treherne, principally for the sake of filling some of the unoccupied time that she feared would hang heavily on his hands, asked him to keep a diary, so that she might at some future time have the pleasure of reading it. This he promised to do, and after a tender parting he strode rapidly off in the direction of where the cruiser's boat was awaiting him.

Starting for Station X

THAT night he reported himself to Captain Evered of H.M.S. *Sagitta*, where he made the acquaintance of Lieutenant Wilson, who would be in command of Station X, to which Macrae was going. Knowing how much they would be thrown together, Captain Evered was anxious that these two should make a mutually favorable impression upon each other; but his instinct told him from the first that such was far from being the case. Wilson, in speaking to his brother officers that night, made no secret of his dismay.

"This is rough luck," said he, "to be boxed up for six months with that miserable mechanic!"

For his part, Macrae said nothing, but felt instinctively the complete lack of sympathy between him and his future superior. It was only after making Lieutenant Wilson's acquaintance that he realized the isolation of the past to which he was going. He felt no resentment against Wilson for what he recognized was a mutual misfortune—that they could never be companions, and he saw that one of the chief reasons was his own lack of education.

Captain Evered found an early opportunity of taking Wilson to task, and of giving him some sound advice, pointing out the bearings of the thing from the Government's point of view, the responsibility of his post, and the desirability of cultivating good relations with his companion who had had less advantages than himself, etc., etc. He nevertheless came to the conclusion, long before the voyage was over, that they were as ill-assorted a pair as he had ever seen.

The voyage was uneventful. In the Indian Ocean, they picked up from another cruiser, a Hong-Kong Chinaman, a quiet methodical sort of creature, who had been engaged to act as servant at the station.

The otherwise nameless islet, known to the admiralty as Station X, was made on the morning of September 7. A short time sufficed for the landing of the new staff and stores, and the taking on board of those relieved. Before the new trio had realized the strangeness of their position, the *Sagitta*, that greyhound of the waters, had disappeared below the horizon. One of the first things, however, that Lieutenant Wilson did realize after taking command was that Macrae, whatever his social shortcomings, was a most intelligent and thoroughly competent "wireless" engineer and operator.

CHAPTER II

Macrae's Forebodings Realized

A MONTH passed, during which Captain Evered's forebodings as to the lack of sympathy between Wilson and Macrae were thoroughly realized. Upon Macrae, who had been accustomed from his childhood to solitude, the effect was not marked; but with Lieutenant Wilson it was different. He grew irritable, unreasonable, and almost morose. His victim was the Chinaman, Ling, upon whom he seemed to take a savage pleasure in venting his spleen.

When off duty, Macrae would wander off to the cliff, and there, for hour after hour, would sit brooding or writing up the diary that May Treherne, with remarkable foresight, had urged him to keep. His earlier entries were devoted to a description of many incidents of the voyage, and the hundred and one impressions made on a peculiarly receptive mind.

He found in the diary a new medium of expression, a relief from the brooding of his boyhood. At first he discovered great difficulty in expressing himself, but gradually found himself writing with increasing ease and facility. One day, on looking back through the earlier pages, he was surprised to find how awkwardly they read. He realized that they did not well represent or reflect his life. He knew that he could now do it better. He decided to begin again, and, now that he was more accustomed to expressing himself in writing, to give a description of his life at Station X.

Diary of Life at Station X

5th *October*.

YOU can scarcely realize the task you set me—I mean, its difficulty—when you asked me to keep a diary. It is a great pleasure, as nothing calls up your sweet face so clearly as writing to you all that is in my mind. It is the next best thing to speaking to you. I have already told you that I am forbidden to tell of the place or of my duties. They are very light, although of the utmost importance in these times. As a soldier would put it, we are a reserve rather than an active force, liable to be called upon, but, for an important reason, used as little as possible. We interchange a daily word or two to see that we are in working order.

I am afraid you will find this diary uninteresting sometimes, but you will know that I have some excuse. Even the weather is uneventful here. How little we know at home how wearisome and monotonous perpetual blue skies can be!

During the long hours off duty, I sit here in this loftiest nook on the cliff overlooking the ocean, writing to you, dozing, or looking out over the limitless expanse of waters. The long slow swell seems to move like enchanted waves, until my own thoughts too seemed lulled to harmony with their changeless rhythm. It is just in such moments that the ominous impression of the approach of that shadow I spoke to you about seems to become more real.

I have learned here that the feeling of isolation, when confined with an uncongenial companion, is more oppressive than if I were entirely alone. How different things would be if only Lieutenant Wilson were a different sort of man. I often think I should get on much better with many a worse man than he. He is most exact so far as performance of duty is concerned, it seems to me even too exact. There is no possibility of any one under him for one moment shirking duty, and of course I have no wish to do so. As a matter of fact, there is so little of it that I would willingly take mine and half his if he would permit it. He treats me with the most rigid politeness, but I can always feel a something at the back of it. I am aware of my social shortcomings, and can make every excuse for him not having a companion more to his liking. He feels the life as much as I do, but does not appear able to unbend. You would be surprised at how few words we exchange in the twenty-four hours, often, in relieving each other at the door of the signal room, saluting without a word at all!

The Chinaman

AT first it struck even the Chinaman as curious, for I have more than once seen him regarding us, out of his almond eyes, with the suspicion of a grin for a moment humanizing his impenetrable countenance.

I wonder if all Chinamen are like this one, and I wonder what this one is like! He is a walking image of inscrutability and silence; his very footfall makes no sound. I think, if one wanted to pretend to be very wise, a perfect storehouse of wisdom that one did not really possess, the great thing to do would be to say nothing. This can be quite impressive if it is done in the right way. The Chinaman does it in the right way, while, as Lieutenant Wilson does it, it is not impressive, but only irritating.

The Chinaman's duties are light, and he does them very methodically. He gives no sign as to whether he likes or dislikes them, or if the slow hours sometimes hang heavy on his hands or not. I think he must be a philosopher, taking it all as the expenditure of so much time for so much pay, and carrying out his contract with a calm that seems to hold in it an element of contempt for all the world and all that is in it. As I have already mentioned, Lieutenant Wilson can convey contempt; but to me, that of the Chinese appears much the loftier of the two.

And yet it is of this placid individual that Lieutenant Wilson manages to fall foul.

I am well convinced that it is not so much through any fault in Ling, as the necessity for some safety valve for the escape of the lieutenant's temper. I am forbidden him by the regulations. He really is most unreasonable. A few minutes' delay in the performance of some slight duty or service, when heaven knows an hour would make little enough difference, is enough to provoke an outburst. Lieutenant Wilson's display of temper always show a harsh and overbearing, I might almost say a bullying disposition.

You will see, therefore, that apart from my slight duties, there is little to occupy my time, and I am reduced to being my own companion, a miserable substitute at best for pleasant company. That is where my diary comes in, and saves me from what would otherwise be many a tiresome hour. I wonder sometimes whether this was not in your

mind when you set me the task. I think it must have been, seeing that although I write to you, I cannot post what I write. If so, thank you for the promise you exacted. What would I not give, dearest May, even for a few minutes of your company.

The Ocean Solitude at Station X

6th *October.*

IF I lived long in this place I should have to become an astronomer. I am not allowed to give you many details, but you know that we are isolated and overlook the sea. When, by day, I sit and watch the ocean around, or, by night, the ocean above, both of which have now become so familiar to me, these seem my real companions, less remote, in spite of their immensity, than the two fellow humans with whom my lot is cast. I think it is the mystery of things that is the attractive power. The sea-birds alone are a perpetual marvel. As long ago as I can remember anything, I remember watching the eagle with wonder and delight; but these sea-birds seem to surpass even him in magic. They come from the invisible distance, sail to and fro, to and fro, up and down, and away again beyond the horizon, and it is even rare to see the beat of a pinion. It is not flying but floating, but the secret of it is their own, or at all events it is beyond the range of my mechanics.

But what are such mysteries compared with those that are spread above? If you have heard me grumble at the monotony of perpetual blue skies, you will never hear me grumble at these nights. It is then I feel the burden of my ignorance, watching nightly the march of these star battalions and not knowing even the name of one. I look forward to being your scholar in this as in other studies, when, if ever, the opportunity comes. No doubt this increased desire for information about the starry hosts is partly because I never knew before that there were so many of them. There must be ten stars here for every one in a Scotch sky at the best of times. But the principal reason is that there would be so much the more to think about, for I have made another discovery, that an ignorant man alone, is more lonely than a man of knowledge can ever be. Yet I dare say the knowledge of the wisest is a small matter compared with the measure of his ignorance.

If I could not turn my thoughts to you, dear May, sometimes, I think I should almost lose my reason. The place, or rather, the circumstances of my life here, are getting on my nerves, and I start almost at a shadow, or the silghtest sound. I must indeed pull myself together, and think still more of you and the double pay that is leading to you, and turn my back resolutely upon things "based on nothing," as you say, "cobwebs," as you call them.

I would not have you different from what you are for all the world, and the greatest stroke of luck of my life was finding you. With your level little head and matter-of-fact good sense to guide me, what have I to fear?

It is now the hour for relieving Lieutenant Wilson at the Signal Station; one of us must always be within hearing of the call signal. He has never had to wait for me yet! Good-bye, dear May, until tomorrow.

More About the Chinaman

7th *October.*

IF these lines were destined to meet your eye at once I would not write them, as they could only worry you. Something has happened. No cobweb this time. My wretched foreboding has always been so vague that it has seemed part of my trouble that I could not tell in what direction to look for it. It never occurred to me that Lieutenant Wilson's temper would pass from an inconvenience into a danger, but what occurred to-day has shown me that in relying on the immovable calm of Ling, I have been building on the sand. The two things may still be quite unconnected, as to-day's affair only concerns me indirectly; but from now I shall live in extra dread of what may happen here.

Ling was a few minutes behind time in the performance of some slight duty, and so had laid himself open to rebuke. This had taken the usual form, and had included the additional feature of the threat of a rope's-ending. When possible, I manage to be absent on these occasions, but I happened just them to be watching the Chinaman, and was startled to see the veil of his everlasting calm for a moment lifted. A look flashed from his entirely transforming his features. Just for one fleeting instant only was it there, but long enough to reveal to me the existence of an unsuspected volcano beneath; then the impenetrable mask again descended. But that glance of fiendish and vindictive hate is enough to show me that my reading of his character was wrong, and that there may be a tragedy here at any time. Never more will I complain of monotonous days. May every day I remain here be as monotonous as hitherto, and may the time at length safely arrive when together we shall laugh all my fears out of countenance. Never did I feel the need of you, dear May, more than now; for if anything of the kind I dread should happen, I fear it would put the finishing touch on my jarred nerves.

An Awful Mystery and Murder

8th *October.*

CAN it be but yesterday that I wrote the last line in this book? So far as the hours are concerned, it appears even less, for I know nothing of the passage of the greater part of them; but reckoning by events which were crowded into seconds, that time seems ages ago. The bolt has fallen. Never more, May, shall I sit and write you my thoughts in the shadow of that rock on the cliff overlooking the sunlit waves. But I will now, to the best of my ability, write down the awful account of what has happened, and the strange thing that has followed it. I am thankful to have had my nerves sufficiently restored to do so. They are restored, in fact, to an extent that seems wonderful even to myself. A short time ago I was too distracted to write anything.

My last letter to you was written, as usual, while sitting at my favorite spot on the cliff. Having closed the diary on the ominous words I had concluded my letter with, I was sitting half asleep, dreamily watching some sea-birds of tremendous wing, the name of which is unknown to me, and lazily wondering, as I always do, at their easy defiance of the laws of gravitation, when I was suddenly roused more effectually than by clap of thun-

der. They say I have phenomenal powers of hearing, and no doubt it is extra acute, but the latent fear that since the day before had lain at the back of my mind, coupled with the nervous strain that had so long oppressed me, would in any case have made me quick to catch any unusual sound from the station—nearly half a mile distant.

What I did hear was an angry shout as of surprise, rage, and something else that seemed to freeze the blood, a moment's mingling of two voices in excitement, a pistol-shot, and that was all. The very silence that succeeded seemed to lend horror to my mind. I had sprung to my feet at the first sound, but stood spell-bound for the few moments the sounds continued, and then at my utmost speed I ran for the station-house.

During the two or three minutes this may have taken, I could not prevent the thought of a hundred awful possibilities from jostling each other through my mind. I feared to find terrible injury to one or other, perhaps both, of my companions—perhaps Ling even dead, for I knew the fatal accuracy of Lieutenant Wilson with a pistol.

The reality surpassed it all. Poor Wilson lay on his side, bent backward like a bow. His attitude and expression were too frightful to recall, the last convulsive twitchings of life were still faintly perceptible. In his back was the Chinaman's knife, driven to the hilt. The Chinaman lay like one asleep, but in this case it was the sleep that knows no waking, with a face on which its habitual calm had already reasserted itself, and a pistol bullet through his brain.

Recovery from a Trance

MY dear May, I cannot give you the history of the time that immediately succeeded my discovery; it has become a blank. Whether I actually lost consciousness at the shock or not, I do not know, but my memory holds no record of what must have been a considerable time. I remember ultimately finding myself standing on the same spot, and, raising my eyes from the awful scene at my feet, I noticed that the sun was already in the western sky. I was shaking like an aspen leaf. I struggled to collect my ideas into a coherent train of thought, instinctively realizing that something must be done—at once.

The thought of those murdered bodies lying so near me in the pale starlight through the silent watches of the night was intolerable. I resolved to bury them while daylight lasted, just as they were, as deep as I could—out of sight—out of sight! I cannot dwell, even now, on all the details of this task. I dragged them as far as possible from the station-house, where their life's blood had made terrible token of the spot where they fell, just outside the door (thank Heaven, outside).

I was determined that deep they should lie, but the ground was rocky, and my tools not intended for this use. Thankful to have digging tools at all, I at length completed my task. I confess that the hardness of the ground was not my only difficulty, for more than once I leapt up from my work with the vivid impression of the contorted face of the Chinaman, as I had once seen it, close to my shoulder. Nothing but the alternative of their ghastly company above ground drove me to the completion of what I had commenced. I was none too soon, for by the time I had finished, the brief twilight was already on the island. Such, however, was my unreasoning, frantic desire to obliterate all traces of the tragedy, that ere black night descended, the bloodstains also had been washed away.

Entering the building, my loneliness rushed down upon me and seemed to wrap me round. I believe it was more this feeling than the duty of reporting the occurrence, that took me straight to the instrument. I longed to hear the voice of my fellowman. At the signal-table there is provided, for the purpose of wireless telephony, a headpiece that fits over both ears, without requiring to be held by the hands, that they may be left free for taking down a message, and that shuts out all sounds except those coming through the instrument.

A Wireless from —— Where?

AS I put on this headpiece I felt severely the physical and mental strain to which I had been subjected, and suffered a curious feeling that I do not know how to describe, except that it seemed half utter fatigue, and half excitement. I passed the signal, and then spoke the call word, and nearly jumped out of the chair at the sound of my own voice. This should not have been very distinct to me, so effective are the ear-pieces or receivers, as excluders of all sounds not coming by "wireless"; yet I seemed to have shouted.

Trying again, and speaking softly, it had the same effect. Having waited in vain for an answer from the neighboring (neighboring!—three thousand miles) station, I removed the headpiece and sat still for a moment. Then I found why my voice had seemed a shout. My nerves, or whatever the proper word may be, were in a state of unnatural exaltation. Incredible as it may appear, the murmur of the wavelets all round the islet was clearly audible to me. The gentlest of breezes seemed to hiss over the bungalow. The creak of a board was like a pistol-shot.

A Breaking Communication

ONCE more I assumed the headpiece and signalled again, and again. The clang of the call-signal at the receiving station is audible for some distance; it is not necessary to have on the head-piece to receive it. The fact of getting no reply proved there was no one in attendance, at the moment, at either of the two stations we communicated with. It is true the hour was an unusual one, in fact one at which no call had ever been sent before, and that could be the only reason why I was left without reply. It was an illustration of how even the best can get slack under such circumstances. I felt at the time that this went some way to vindicate Lieutenant Wilson's methods, whose faults, whatever they might have been, certainly did not lie in the direction of slackness. No one could have signalled us at any moment, day or night, during his command here without receiving an immediate answer.

Keeping on the headpiece, I waited, calling up at intervals.

How long this went on I cannot say, but after some shorter or longer time a thing happened that I cannot explain unless by supposing it the result

of the state of physical exhaustion to which I had reduced myself. While I waited, I fell asleep. My head must have dropped forward on the signal-table, at which I sat, and with the head-piece still attached, sleep suddenly overcame me.

On waking, I seemed to come suddenly to my full senses, and it immediately struck me with a shock of surprise that it was no longer night!

It did not take me a moment to realize the fearful neglect of duty of which I had been guilty, recalling as I did the fact that it could not have been much more than an hour after sunset when I fell asleep. My first act was to look at the chronometer. It marked four o'clock. This was absolutely bewildering, for at four o'clock it would not be already light. Hastily removing the head-piece, I walked out of the station-house. The sun was approaching the west! There could only be one explanation—I had slept over twenty hours.

Remembering that as yet no account of the tragedy of yesterday had been despatched, and the urgent need of bringing the facts to the knowledge of the Admiralty, so that relief might be sent, I hastened back to the instrument. Here another surprise awaited me, to make you understand which, a little explanation is necessary. It is part of our instructions that, when telephoning, every word as spoken must be written down in shorthand, and every word spoken at the other end, must be taken down as received. This gives the Admiralty two records of everything that passes, one at each station, which should exactly correspond.

On opening the Record Book, imagine my surprise to find written down, in my own short-hand, the report of a long conversation with the Queensland Station, in which I had apparently given a full account of everything that had happened, and received replies and instructions. I tried to recollect something of this, but in vain. My memory was, as it still is, and no doubt always will be, a complete blank respecting it. The only explanation that seemed possible was that I had done this in my sleep, or in some state resembling sleep, brought on by the abnormal condition in which I had been the evening before.

A Change in Physical Condition

IT now occurred to me for the first time what a great change there was in me, as compared with the day previous. Incredible as this unremembered signalling appeared, and nothing but the evidence of my own notes staring me in the face would have convinced me of it, it seemed almost as strange that such a disturbed sleep as it evidently must have been, could have restored me in the way it had. My nervous condition had quite vanished, for I found myself as collected as ever before in my life. It might therefore be said I was more than restored, for I could scarcely recognize myself as the same individual that had spent the last few weeks, and especially the last days, in torturing worry and foreboding.

It seemed as though the very catastrophe I had apprehended had, by its occurrence, relieved my mind from the strain. If any one had told me some months ago, say when last we saw each other, that under such circumstances as these—of horror, isolation, responsibility—I should be able to take it so calmly, I should have been the last to believe it.

It next occurred to me that I was fearfully hungry, as well might be the case, and the need suddenly appeared so pressing that it had to be at once attended to. Never had food tasted so good, and yet, before I had proceeded far, a mouthful seemed to turn to ashes. The Record Book certainly contained an account of messages in my handwriting, but what evidence was there that it was other than an acted dream? Dropping my food, hunger forgotten, I went to the instrument, and in less than a minute was talking with Queensland. My relief was great as I found my account fully confirmed. They had received my report, and now renewed the instruction to keep as constantly on duty as I am physically capable of.

Since finishing my interrupted meal, I have written you this account, while keeping within sound of the call-signal. It is almost the hour at which I yesterday fell asleep at the instrument. That will not happen again, but I shall put on the headpiece. It is not necessary, but somehow I feel as though called to the instrument. So good-bye, dear May, for the present.

CHAPTER III

What the "Sagitta" Discovered

IT was the afternoon of the 11th of October. The cruiser *Sagitta* was taking a wireless telegragh staff, men whose leave had expired, from New Zealand, where their last duty had been, to the relief of the station at Wei-hai-wei. About six bells, a radio message was received in code from a station on the Eastern Extension Cable. "Take staff on board with all dispatch to relief of Station X. All communication ceased. Report on arrival."

When Captain Evered received this communication he was already well north of the Bismarck Archipelago. As he read it his face could not have become graver had he seen an approaching typhoon on the horizon. In a figurative sense that is what he did see.

Promptly the nose of his thirty knotter was deflected to the north-east, and she was sent racing at her best pace on the new route, which lay through the countless islands of the Caroline and Marshall groups, to where the bottom of the Pacific falls into the Ammen Deep, near which his goal was situated.

He knew that something unusual must have happened, but the secrecy of the Service precluded the possibility of his asking questions. It was very possible, he thought, that Whitehall knew no more than he. "All communication ceased" was what lent color to the natural thought that had instantly occurred to him. Two young and healthy men are not likely to be totally incapacitated from duty at the same moment—from natural causes.

Thinking of the two young men concerned in the present case, his thoughts took another turn, and, judging by his expression, it did not seem a particularly pleasant one. Encountering the ship's doctor on deck soon after the change of course, he said:

"What do you think of this message, Anderson? Have you any theory?"

"Illness, probably," was the reply.

"Perhaps," said Captain Evered in a tone of doubt, "or worse."

"What do you mean, sir?" was the startled retort. "Do you think that Germany——"

"My first thought was that the storm had burst," said Captain Evered; "but if such an idea had been entertained at home, the message would have been worded differently. We live in such ticklish times that every precaution must be taken, but I don't think that is the explanation."

No Communication with Station X

"THEN have you some other theory?"

"I don't like to call it a theory, but I brought those two fellows out from England, and I can't forget what an ill-paired couple they were." Captain Evered lit a cigarette.

"In other words, you think it possible there has been trouble?" queried the doctor.

"You were not with us on the outward voyage, and so have not met them. Wilson showed every sign of being a martinet, and a surly one at that. Macrae, the engineer and operator, is more difficult to describe. He is well-meaning, but with little education, very nervous, and of weak will; no vice, but no ballast. So we have the undisciplined temper of one, the peculiar, unstable character of the other, and extremely trying conditions—how trying they can be is known only to those who have been boxed up together for months in that way."

"I hope there has been no row between them!"

"Very likely not; but nothing would surprise me very much. The one thing certain is that neither of them is on duty, and the more I think of it, the less I believe in outside interference. Such a thing would be an overt act of war, of which there would be other signs by now."

Station X was thoroughly fitted for radio telegraphy, as well as with the incomparably larger plant for long-distance telephony. As the distance between herself and the island diminished, the *Sagitta* made repeated efforts to call up the station, but received no reply.

On the morning of the 14th the island was raised, a tiny speck on the ocean's rim. When near enough for the glass to show every detail on cliff and shore, the cruiser made the tour of it, as a measure of precaution; but no sign of life was visible, either on land or water. She then fired a rocket to attract attention, and waited, but in vain.

Captain Evered's face was the picture of astonishment. What had happened to the Chinaman, even assuming the worst in regard to Macrae and Wilson? Turning to his first lieutenant, he said:

"Mr. Fletcher, take the cutter and go and investigate. Anderson will go with you. Let the men stay by the boat while you and Anderson land. If you see no sign of any one, signal me to that effect, and proceed to the station-house. Take your revolvers. Be careful to disturb nothing that has any bearing on what has happened, and return as soon as you can."

Landing from the "Sagitta"

THE boat's crew were piped away and were soon pulling for the shelving beach. The two officers landed and proceeded to climb the cliff. They stood for a moment, the whole interior of the island lying like a map before them. They were watched with much curiosity from the *Sagitta*. In order to preserve the secret of Station X every precaution had been taken to hide from the non-commissioned ranks the fact that there was any secret connected with it, or anything different from the other various stations periodically visited. As it is always the unusual that is most like to be talked about, Captain Evered intended to take every means to hide any discovery of a remarkable nature in connection with the present visit. That there was something out of the usual routine could not be hidden, but he hoped that the statement that there was a case of sickness on the island would be sufficient explanation, whatever the full facts of the case might be. This was why the doctor had been made one of the landing-party.

The agreed sign that nothing was visible was made, and the two men disappeared over the cliff.

"The station looks all right, at all events," said the doctor, "but no sign of anybody. Where the dickens can the fellows have got to?"

They pressed on for the station-house, and pushed open the door, which was closed but not latched.

On the floor, on its back, lay the body of Macrae, with an overturned chair beside him. The appearance irresistibly suggested that the poor fellow had been sitting at the table in front of the instrument, when, from some unexplained cause, he had fallen backward, chair and all, striking the floor with the back of his head. There was no sign that he had made any subsequent effort.

"Dead!" said the doctor, after a brief examination; "but where are the others?"

Catalepsy or Death!

THE various rooms of the bungalow-built station-house were thoroughly searched, but there was nothing to throw any light on their absence.

"Can you tell the cause of the operator's death, Anderson?" inquired Lieutenant Fletcher.

"No," replied the doctor; "there is no sign of violence. It's very strange."

"Possibly the papers will show something of what has happened," suggested Fletcher, "but I think we'd better not interfere with them. I'll go back and report. No doubt the chief will then come ashore."

"Right-oh!" said the doctor, who had turned his attention again to the body in the signal-room.

Lieutenant Fletcher accordingly returned to the *Sagitta* and made his report, with the result that Captain Evered immediately decided to go ashore himself and make a personal examination of the island.

On arriving at the station-house, he went straight to the signal-room, where he found Dr. Anderson kneeling by the body of Macrae.

"Fletcher and I thought you had better see the place before anything was touched, sir," said Anderson, looking up.

"He's dead?" questioned Captain Evered, indicating Macrae.

"I thought so at first," was the reply.

Captain Evered looked sharply at the speaker, for both in the words and tone there was a significance.

Answering the look, Anderson proceeded: "I have made a further examination, and I'm not now

certain that my first report was at all correct."

While speaking he was placing the body in what, for a living person, would have been a more easy attitude.

"It is true that I can find no sign of life whatever, neither pulse nor temperature; but on the other hand, I can find no certain sign of death. You see there is no rigor, nor any sign of decay. The cessation of signals implies that he may have lain in this state for four days, and in this climate too."

"But," said Captain Evered, "is such a state of death in life possible?"

"It is difficult to say what is possible in this way," said the doctor; "but if this is trance, it is the most extraordinary case that has ever come to my knowledge."

"Meanwhile what should be done?"

"He must be got on board as quickly as possible, and receive treatment."

Captain Evered did not reply for a moment. He was looking at the thing from the Service point of view.

"Well," he said at length, "what must be, must be; it is true we could not very well leave him here, but it's unfortunate. But what of the others? Where are they?"

"We've seen no sign of them," said Anderson, "and in your absence Fletcher would not refer to the signal records to see what light they might throw on things."

Examining the Signal-Books

ACTING on the hint, Captain Evered went to the signal-book and began to read. The first thing he noticed, for in the circumstances he began at the end, was that the last signalling which took place was on October 10th, that is the day before he had been ordered to change his course. Turning back the leaves, he at once came upon Macrae's report of the tragedy. This showed him that the Admiralty was already in possession of the facts so far. It did not show him the first arrangement made for Macrae's relief, and which, for the sake of greater despatch when Macrae no longer responded, had been altered by sending the *Sagitta*. Captain Evered now gave the terrible details to his companion, and requested him to find the place where the bodies were buried.

While Anderson was thus employed, Captain Evered turned to Macrae's diary, which under the circumstances he felt justified in examining. This he scanned over from the beginning, reading a little here and there, and soon seeing that it was a most improper account to have written, containing many indications that, in certain hands, would have afforded undesirable clues. As he came to Macrae's description of the death of his companions and the effect on himself, Captain Evered became confirmed in the view he had always held, that Macrae had never been a man suited to this kind of duty.

As he read the astonishing document, he came to the inevitable conclusion that the poor fellow's brain had been turned by the event that had happened and that the latter part of the diary was but the ravings of a lunatic. In fact, Macrae seemed, pathetically enough, to have had a suspicion of the fact himself.

Putting down the diary as the doctor returned to the signal-room, Captain Evered said:

"Well, have you found the spot?"

"Yes, sir, I've found the grave," was the reply.

"Then that so far verifies his report, but it is necessary that our arrival and discovery should be reported for the information of the Admiralty. I believe you are a motorist, Anderson, and no doubt you can re-charge with petrol and start the engine."

Whilst Dr. Anderson busied himself about this, Captain Evered wrote out his report for despatch. This concluded, he turned to the doctor.

"That a row of some sort should have happened here would not have surprised me, but to find all dead is beyond my worst anticipations. What do you now make of him?"

"I can only repeat what I have before said. He must be brought on board," said the doctor, "but I have little hope for him."

"Then," was the reply, "when the report is sent and the relief staff landed, you must take him on board on a covered stretcher with as little remark as possible. Say he is in a comatose condition, and too ill to remain here. With care, his peculiar state need not be made apparent. The absence of the other two will not be spoken of, and there will not be much to call special attention to the affair among the crew."

The Injured Operator Taken on Board the Naval Cruiser

LEAVING Dr. Anderson in charge of the station, Captain Evered went down to the boat and returned on board. He explained the situation to the officer about to take charge, and sent him, with his engineer-operator and servant to take immediate possession on the island, instructing him to call up British Columbia, and advise that the station was again in working order.

Under the excuse of waiting until the repairs rendered necessary by "the recent explosion at the station" had been carried out, the *Sagitta* stood by until sunset. In the fading light the "injured" operator was placed on a litter, and, under the doctor's supervision, brought on board. Long before that, the *Sagitta* had received her orders from home to proceed to Hong-Kong.

Captain Evered had brought Macrae's diary away with him, and now went carefully through the latter part of it. He was quite convinced of the truth of the version given respecting the fatal occurrence between Wilson and the Chinaman. There were further entries under the dates of the two subsequent days. The former had been first written in shorthand, in the manner a message is taken down as received, which, in fact, it pretended to have been; and had afterwards been re-written in longhand. The entry under the second date, the last entry in the diary, was still in shorthand only. It was the former that had been considered by Captain Evered, when on the island, to be proof of the writer's insanity.

Deciphering the Short-hand Diary

AT the first opportunity he spoke to Dr Anderson on the subject. "I should like you," he said, "to run through this entry of his. The poor fellow seems to have had the most extraordin-

ary delusion one could imagine. What do you make of him now?"

"Absolutely no change. In my opinion, if it is trance, it must end in death, with probably nothing to show the precise moment of the change. Do these writings of his throw any light on how he came in the position in which we found him?"

"So far as it is written out, no; but half of it is still in the original shorthand. This I can't read myself, and I rather hesitate about putting it in the hands of any one on board who can."

"Well, as you propose to hand the papers to me, I'll see what I can make of it. If it's Pitman's and fairly well written, I think I may be able to make it out, and if you wish, I'll write it out for you."

"Thanks. If it's anything like the record of the day previous, I confess I should like to see it, wild delusion though it be. But take it and read it. Its very existence, from beginning to end, shows how unfit he was for the secret service of one of these stations. Where his madness began I leave you to decide. At all events he seems mad enough towards the finish."

"What do you suppose caused him to lose his reason?"

"I don't feel the least doubt about that," said Captain Evered. "He was a young fellow of considerable ability, but of the nervous, imaginative sort, unsuited in any case to the life incidental to such a post; and when the event happened that left him there alone, under circumstances that would have been trying to any one, he simply went all to pieces. However, read the first part of this, that is already written out, and tell me what you think of it."

Brain and nerve disorders had always been the branch of his profession that had special attraction for Dr. Anderson, and the vagaries of unhinged and abnormal minds had been a particular study of his. It was, therefore, with scientific interest that he took Macrae's writings for perusal. After reading the part that has already been repeated here, he came to the point where Macrae, in the signal-room, finished his daily entry or letter with the avowed intention of going to the instrument and putting on the receiver or headpiece; to quote his own words, "as though called upon" to do so.

CHAPTER IV

The Mysterious Voice

WHAT Dr. Anderson began to read in his cabin ran as follows:—

It is not very agreeable, my dear May, to write what I feel must inevitably make you to believe me to be perfectly mad. And will you be far wrong? That is the question I am constantly asking myself. At all events, here are what appear to me to be the exact particulars of my experience.

After finishing my letter to you yesterday, I went and put on the headpiece, without knowing myself quite why I did so. Almost immediately after the receivers were covering my ears I heard a voice, and it at once struck me as a very peculiar voice, very pleasant and musical, but quite different somehow from any I had ever heard. It said, "Macrae, are you there?"

Having answered, I was surprised, after a short interval, to hear the voice repeat the same question, as though I had not been heard. But then it occurred to me that I had replied in a very low tone, instead of the rather loud and distinct manner of speaking we are instructed to use. So I endeavored this time to reply louder, but found that I seemed to have almost entirely lost my voice. I could only answer in the same manner as before. There was a minute's silence, and then the same question repeated. My inability to reply otherwise than as before was most disconcerting, for, I reflected, while that state of things continued, I was, for the purpose of radio telephony, absolutely useless. As the only one at the station, this would be serious. Using my best effort, but without any extra result from it, I answered, "Yes! I am attending. Who are you?" Once more the same question came through the receiver. While I sat still, wondering what I should do about it, the voice spoke again. I had been heard.

And now, dear May, try to believe me, however difficult. Think, should I choose such a terrible time as this for romancing? No! either this great marvel has really happened, or else I am—but no; I must, must keep away that terrible thought.

The Strange Message From An Unknown Source

THE voice said, "You attend! Now, listen, and do not be induced to leave the instrument, or fail in the closest attention, by the surprise of what you hear. Also understand that six minutes will elapse before any answer can reach you in reply to any question or remark of yours. I am not speaking to you from any point on your planet, but from your nearest neighboring world, which you call Venus."

"But," I interrupted, "you called me by name!"

"This," went on the voice, "is an event in the history of your world, the immense importance of which, others of your fellow-beings will be much better able to realize than you. Of greater importance to your world than ours, in view of the fact that we are more advanced in intellect and knowledge than yourselves, and have therefore less to learn from you than you from us. Having gleaned all we can from yourself, I will, pending arrangements that must be made for your *savants* to converse with us, give you some information respecting ourselves and the world from which I speak to you. Yes; I called you by name! You do not remember, but we have been in conversation already for twenty hours—as long as your nature could hold out. This I will at once explain to you.

"What you call radio telegraphy is the launching through space of etheric impulses, which travel outward from the generating centre indefinitely in all directions. The medium in which these impulses are propagated is universal. Unlike sound signals, which, propagated in the air, must be bounded by the atmosphere, these etheric signals have no definite bounds; they are easily detectable here, and much further. Consequently, your radio conversations have been eagerly listened to on my world, and have aroused an interest that you will scarcely understand.

"From a time, thousands of years before your recorded history commences, we have desired to converse with you. During all these ages we have been able to see you, but not to speak to you. This

we have ardently wished, not only that we might help you forward, but that we might have the means of solving a thousand problems relating to your world, and especially to your (to us) bewilderingly incomprehensible 'human' nature, as denoted by your acts. So, although the subject-matter of most of your radio messages is of trivial interest in itself, the light it has thrown on the mentality of your species lends to every word a profound interest.

Interplanetary Telephony

WHEN, at last, you discovered telephony we recognized that communication should soon follow, and we did all we could to attract your attention. But you persistently remained deaf to our words. From this we found out that your powers of hearing were insufficient for the purpose of interplanetary communication, which would therefore remain for ever impossible unless some means of establishing mental *rapport* with some one of you could be devised. In the latter events, through the exalted condition of the sensorial faculties that could be induced, and especially as controlled by hypnotic influence, we still hoped success might be obtained.

"The difficulty, however, of bringing this about remained unconquerable, and, in the event, chance alone has decided it.

"This chance depended on the accident of one of your own particular nature or character being thrown by unwonted circumstances, and your isolated position, into a mental condition, one symptom of which was an abnormal functional exaltation of the sensorial ganglia.

"On the night of what you call October 7, in this condition of nervous exaltation, and physical exhaustion, you, to outward appearance, fell asleep at the instrument. Sleep is one of the natural phenomena that, with you, seem to be still curiously uncomprehended. For the present, I will merely say that your sub-consciousness was especially wide awake, and could hear my call. You answered, and the rest was easy. Improving the adjustment of your already responsive condition by hypnotic suggestion, for twenty hours we remained in the closest mental *rapport*. This time was employed, except for short intervals, when I assisted you in the performance of the work of your station, in getting from you all the information on things human and terrestrial that you are capable of giving. You have resolved a thousand questions that have been debated here for millenniums. We regret to find your strange lack of information on subjects evidently within the present acquirements of your race. Why are not all—but of that, another time. It may please you to know that, although at present an undistinguished individual on Earth, you are at this moment the most celebrated on Venus."

The Voice Said, "Your Nearest Neighbour"

THE voice ceased, and can you wonder, dear May, that words in reply failed me for a time. Among a hundred thoughts crowding through my mind the one which persisted with most force was, Could this be real? "Your nearest neighbour," the voice said. I do not know what it means. The horrible idea took shape, this is delusion, madness! I cannot blame you that, like any one else, you will be driven to that conclusion. It must be so much easier to think that trouble has driven another poor wretch out of his mind, than to believe that some one has spoken to him from the stars!

After a time—I do not know how long—I pulled myself together sufficiently to make an answer. I tried to speak into the receiver, but found that I could only speak in the same low tone as before. "How is it, then," I asked, "if I could only hear you at first in consequence of a special state I was then in, that I can hear you now?" But, try as I would, I could not raise my voice. Finally, I gave up the attempt, and sat dejected at this impotence. While I sat with my head bent, the voice began to speak—to *answer!* I was astounded that so low a tone should have been effectual.

"Because you are still in a 'special state,' as you call it," the voice said; "that is, under my hypnotic control, as established by me at our first interview. It is in obedience to my suggestion that you came to this interview, and that you can now only speak in a low tone to me. To others you are able to speak as loudly as you desire. Although your consciousness is now awake, and you do not feel the control, still it is perfect, as your loss of voice proves. This I ordered, partly that I might have that proof which is necessary, and partly that our conversation might be private, as none of your fellow-beings can hear you, and you alone can of course hear me."

"How then are others going to talk with you?"

"At first through you; then, I hope, directly, in a way you will see when the time comes."

"But no one will believe me. Every one will think me mad, rather than suppose a human voice has reached me from such a distance."

"There will be no difficulty; at this, or subsequent interviews, there will be plenty of subject-matter in your notes, that it will be evident did not emanate from you. But do not say 'a human voice'; you must not suppose me to be in the least human."

It Is Venus That Has Been Speaking to Station X

"WHAT are you then?" I said, and, dear May, you have no idea what a horrible shiver ran down my spine as I asked. I had become already a little accustomed to the ringing musical voice, and, drawn by it, had, I think, all unconsciously, begun to picture a fellow-being speaking to me from this other world, not without sympathy. But now all that feeling instantly vanished; nothing remained but a sense of the hideous uncanniness of it all.

"I am," answered the voice, "one of the dominating race on Venus, just as you are one of the dominating race on Earth, and do not be surprised or offended when I inform you that, were we on your Earth, and able to live there, we should, by virtue of our greater mental powers, have no more difficulty in dominating you than you have in dominating your horses and cattle."

If this is true, May, thank God for the gulf of distance between us! While speaking of distance, do not forget that in these conversations there is always a wait of about six minutes for replies. If, as I suppose, this is in consequence of the distance,

it gives me some idea of what it must be. In signalling Queensland or British Columbia I have often noticed there is no interval at all detectable.

"How is it then," I asked, "that if you are not a human being, you speak to me with a human voice?"

"A very reasonable question," said the voice, "showing that you realize that the sounds of human speech could only be made by human, or in some measure human-like organs. But the explanation is very simple. When first radio telephony was invented by you, that is, when first we heard your voice on our receivers, we immediately learned your languages. (That you should have more than one shows how crude is still your social—but of that later.) Our next care was to make a mechanism that could give out the sounds alluded to. This I employ as you might play on an organ, and it is sounds so produced that you hear."

The Wonderful Intelligence of the Venus People

AS I listened to these last words of the voice I felt a lightening of the load of dread, the suspicion of my own insanity, that weighed on me. Surely, mad or sane, no such ideas could spring up spontaneously in my head. Some one, somewhere *was* communicating with me.

"Until you used radio telephony, we were ignorant of the sounds you made in communicating with each other; and it seems to be practically sounds alone that you employ—a curious limitation!"

"But," I said, "you could see us before that? You knew that this world was inhabited?"

"We have known it for a hundred thousand years, and more, and during all that time have been close and interested observers of the happenings on your globe, placed as you are peculiarly well for our observation. While we were still not, on the whole, more advanced mentally than you are now, we had already constructed an instrument which enabled us to do this. The fact that you have not yet done so is because you are mentally constituted in a totally different manner, which inclines you to devote your study and efforts in other directions. That is to say, primarily so. The observation of nature, and the universe in which we live, would appear to you of infinitely less importance than matters which, to us, appear futile and trivial."

"I am sorry that I have not had the time to study these things," I said, "but I thought Mars was the nearest world to us, not Venus; and I have seen some talk about its being perhaps inhabited. I should take an interest in science, but I have had no time, with my living to get."

Mars Is Also Inhabited

"NO doubt," said the voice, "but your *savants* will be under no misapprehension as to the relative distances of Venus and Mars. You have seen more respecting Mars because it is better placed for your observation. I can inform you that it is inhabited. Of all the things we shall speak of, this is the most vital to you. But we will not enter on it until to-morrow, as the time for our present conversation is now nearly ended."

This, of course, seemed very surprising to me, and I cannot now see at all what it could mean. It does not seem to me that any news about the inhabitants of Mars could be of much importance to us as information of practical benefit to ourselves. On hearing that the present conversation was about to end, I said, "Will you, or can you, give me some proof, that others will accept, that this conversation has actually taken place, and is not merely my own imagination?"

"What kind of proof do you suggest?"

"Something that could not be known to me in any other way, as, for instance, a description of the thing you said you could see us with so long ago, when no cleverer than we are. Nobody could believe that I had invented such a thing as that must be."

"Very well! As you may not be able to follow all the description, which I must render short, write with care the words you hear, so that others may be able to understand it, even where you may not be able to do so.

"Given perfect workmanship, the power of a telescope depends on the area of its objective lens. This is not on account of any superiority of definition, but on its greater light-gathering power. The image it produces is capable of greater magnification because better illuminated. But beyond certain moderate dimensions the practical difficulties in the making of optically perfect objectives increases out of proportion to the extra area. For this reason our *savants* turned their endeavors to the discovery of some way of making a number of objectives, arranged in series, yield one perfect image of the object.

Double Refraction and Polarization

"THERE are certain crystals, which probably you have personally never heard of, which are doubly refracting. When a single ray of light enters one of these crystals in a certain direction it divides into two, which proceed in diverging paths and emerge as two rays. If the ray or beam of light entering the crystal carries an image of some object, the sides of the crystal can easily be so cut that both the emerging beams carry perfectly the same image. Conversely, if two rays enter the crystal in the paths by which the first mentioned left it, they will unite and emerge as one ray.

"The rest is obvious. A battery of objectives and as many intervening crystals is arranged. Into each intervening crystal enter two beams in the requisite paths mentioned, the one of which comes from the object direct through one of the objectives, the other is the emerging beam from the crystal next before it in series, and which is the united beams from an objective and the crystal still next before. By this means the beam emerging from the crystal last in series is composed of the united beams of all the objectives, and, if the manufacture and optical arrangement is perfect, will carry a perfect image of the object, with light in proportion to the united area of all the objectives. The arrangement of the minor lenses, and the method of dealing with the polarization, will be so obvious to your opticians that it can be here omitted."

"What," I said, "is polarization?"

"There is no time now," said the voice, "for further description, and the fact that you do not know, renders my description the more valuable to you for the purpose for which you asked it. Your people will know all about it. We must now cease

to communicate, and you will be unable to hear until to-morrow at the same hour as to-day, when you will come again to the instrument."

Getting to the End of the Dialogue

SO there our conversation ceased, and I said no more; in fact, I had a curious feeling as though forbidden to do so. I hope I shall soon be relieved of this dreadful post. Headquarters tell me relief is coming as quickly as possible. I have nothing to say against the friendly sort of voice I have listened to, or the communication it has made. I owe it something for having, at our first interview, in my sleep, evidently quieted my nerves, when I was probably on the high road to madness. Very possibly that saved my reason. All the same, I cannot forget that I am hundreds of miles from a living soul, and it makes my flesh creep to listen to the voice of one who tells me openly he is not a human being at all! What, I wonder, can he be like! I dare not think of it!

I have not reported officially any of the above conversation. What would be the use? At least I am now sure of the existence of some one who has talked to me. I can feel his personal influence too strongly to doubt it, apart from any other evidence. But that does not prove his words are true, or that he speaks from Venus. Perhaps some lying and wandering spirit—but I will not think about it. What would I not give to be off this awful rock that seems lost in the remotest wilderness of the ocean. I used to like to look around from the cliff edge, and see the far-off circle of the horizon without a spot in any direction to break its line, but now I dread it. I have resolved not to attend at the instrument at the time the voice has appointed. Let the next conversation be when there are others here.

End of the Diary

WITH a few love sentences, principally expressing the desire for an early reunion, the diary ended for the day. Under date of the next day, and precisely at the hour appointed by the voice, evidently in spite of Macrae's resolve to the contrary, a further conversation had taken place and been recorded. This was only in shorthand, and, while the doctor was puzzling over the first words of it, the door opened and Captain Evered entered.

"Well, Anderson! What do you think of the poor fellow's ravings? Curious delusion, wasn't it?"

"More than curious; but between ourselves they don't read to me like ravings at all! There is a curious problem here that at the moment, I must admit, puzzles me. If Macrae were a man of scientific attainments it would be still very curious as an instance of self-delusion. But the number of such cases is very great, and this could simply pass as a noteworthy specimen among them. But if he was only the uneducated man you have given me to understand, then this document is the most astonishing thing I've ever heard of. Yet I suppose we can accept his own version of it?"

"Well you know more about this kind of thing than I, but to me it simply reads like the ravings of a lunatic!"

"But these are not ravings! What he has written as the words of the voice indicate considerable scientific knowledge, and if Macrae did not himself possess it, the theory of his madness would not account for it. Let us dissect it a little. Either he had considerable scientific knowledge when he landed——"

"My dear Anderson, I watched him closely during a long voyage while endeavoring to establish better relations between him and poor Wilson. I had several conversations with him, and drew him out, and you may absolutely rely on it that he was just an ignorant, unread mountain lad, but very imaginative. He had applied himself diligently to the practical part of radio telegraphy—and subsequently telephony. He knew next to nothing of the scientific theory of it, but was very competent in the engineering and general working. As for general scientific knowledge, he simply had none."

"Perhaps," pursued the doctor, "he took books with him and studied on the island."

"Nothing of the kind was landed."

"Or he was instructed by Wilson during their spare time," suggested the doctor.

"Absolutely out of the question. Wilson would as soon have thought of instructing a mountain goat."

Discussing the Conclusion of the Diary

"THEN he has been in wireless communication with some one, somewhere, who has thought it worth his while to hold this conversation with him; that is the only explanation of this," said Dr. Anderson, tapping the manuscript before him.

"There are," said Captain Evered, "only two stations on earth that have the necessary apparatus for communication, by telephone, with Station X. No one at either, unless as mad as Macrae himself, would venture so far as to contravene the regulations for such a purpose. Using the Morse code, the signals of any vessel within a wide range are received, but it is forbidden to answer. Therefore, if we are driven to believe he received the messages from somewhere, we must, it seems, accept the version of Jupiter, or wherever it is he claims it for."

Anderson did not join in the Captain's laugh.

"Well, then," said Captain Evered, "as you will not, I see, accept my simple explanation, tell me what it is in his account that causes the difficulty."

"Certainly. Did you notice this account of a kind of compound telescope?"

"I saw there was some description of something in that way," was the reply; "is there anything in it?"

"I do not say it is workable; in fact, in my opinion it is not, but it is quite understandable; and the *theory* is all right. The difficulties, although probably fatal, are merely mechanical. So far as I am aware, the idea is quite new. In the hands of superior beings, such as this Venerian claims they are, mechanical difficulties would disappear. So that, in the first place, the story hangs together all right, and secondly Macrae *could not* have invented it. Further, while reading it, I checked off the position of Venus at the date of the writing, and calculated roughly the distance. I find that at the speed of these Hertzian waves it would be al-

most exactly a three-minute journey. So that Macrae's six minutes for replies is quite correct. Again, there are the remarks of the supposed Venerian as to the backward state, socially, of us terrestrials, in not adopting a universal language, and on other social questions. Can you imagine them as emanating from Macrae? Speaking of languages, does this writing strike you, where the Venerian is supposed to be speaking, as being in Macrae's style?"

"By Jove! Anderson, you are right! Now this really is interesting. Perhaps this shorthand that follows will throw light on it, as well as on his present condition. By the by, I hope it won't last much longer. It becomes increasingly difficult to keep it from the crew."

"I am glad to see you are at last interested. But there is a task before me here. It is so long since I used Pitman that I have almost forgotten the signs."

It proved quite as difficult as the doctor expected, and it was far into the night before he had finished, but he was too absorbed in the contents to leave it before it was done.

CHAPTER V

Captain Evered Gets the Transcription

THE next morning Dr. Anderson handed to Captain Evered his transcription of Macrae's shorthand.

"What do you make of it?" was the question as they walked towards the captain's cabin.

"I'd rather not say until you've read it, sir," was the response, "lest you think me mad as you think Macrae. Now I'm going to turn in. I've not long finished it."

In order to keep Macrae's condition from the crew, and for the doctor's better private observation of him, Anderson had given up his cabin, and was for the time accommodated in a screened-off corner of the barbette.

Transcription of the Mysterious Communication

CAPTAIN Evered shut himself in his cabin, and unfolded the manuscript which ran:

"Are you there, Macrae?"

"Yes, I am here, although on thinking it over after our talk yesterday, I decided not to be."

"Why?"

"I decided I would prefer to leave it until there were others here with me. Since you told me I was not listening to a human voice, I seem, somehow, to shrink from it; it is uncanny. Also, some time after I left the instrument, the doubt came back, that it might be all a delusion."

"So you decided not to come to the instrument for this appointment, but, as the time approached, you altered your mind, or rather, your mind altered, and you felt inclined to attend; is that so?"

"Well, yes, that is exactly how it was."

"Quite so, that is as it should be. While you are talking with me, do you entertain any doubt of my existence?"

"Not at the time. I can distinctly feel that you are somewhere; that there is some one besides myself."

"Exactly. Across the abyss you feel my personal influence. I think, Macrae, you must be exceptionally adapted, even among your impressionable species, for the rôle you are filling. Be quite convinced of my objective reality; from this time onward dismiss any idea to the contrary from your mind; let no such doubt occur to you again. With respect to the other point you raise, although you do not know anything of bodily forms here, do not let that trouble you. The curiosity that will doubtless exist among your fellow-beings respecting us shall be fully satisfied later. For the present, try to realize that the body is but the raiment; it is the being who is clothed with it that alone signifies.

"In view of what I am about to say to you, it is essential that you should keep that fixed in your mind, as it will help you to understand. For the rest, look upon us here as the friends of your kind. How urgently you are in need of our assistance you are about to learn; for it has been decided here that, in view of this wonderful opportunity, which accident might interfere with, not another day should be lost in acquainting you with the particulars. As the message is not for you alone, be very careful in your written report of it. Now listen attentively.

A Warning from a Friendly Planet

"A TERRIBLE danger threatens, from which nothing but the fortunate accident of your getting in communication first with me, may save you—if saved you are to be.

"That you should the better understand what you are about to hear, it is necessary to begin by recounting to you some long past events, relating to life in other worlds than yours or mine.

"The mystery of the origin of life, like that of matter, is an ocean depth where no plummet of the finite mind can find a bottom. It is sufficient illustration of the crudity of your ideas on the subject that there should be any doubt among you as to the other planetary members of our System being inhabited. You now have proof that one other is so, and must take my word for it that there is good reason why no planet under such temperature and other conditions as render life possible, can remain barren of organic development.

"But there have been times in the past when such conditions have not obtained, when the various members of our System have been too heated for life to be possible. In consequence of the more rapid cooling of the smaller planets, the first to be the scene of life was your satellite, the Moon. This was millions of years ago, and the climatic conditions on it then were very different from now. It then had abundant atmosphere and humidity and afforded a site for life development long ages before your world, or ours, was so suited.

"The inevitable result under these conditions followed. It became covered with a myriad forms of living creatures, out of which finally emerged one, by virtue of its mental superiority, combined with sufficient bodily fitness, to dominate all. In obedience to the laws of development, this race advanced to higher and higher powers, attaining a position similar to that held by you in your world, and by us in ours. Now you must conceive the lapse of a vast period of time before the great tragedy, of which I am about to speak, took place.

About Lunarians and Their History

"IN the course of unnumbered thousands of years, the Lunarians, as we will call them, had developed in powers, both mental and physical, far beyond either yours or ours at the present day. At that time the Earth and Venus were still without other than the lower forms of life, in consequence of their more recent habitability. The only other place where life had now advanced to the higher plane was the much smaller planet, Mars. At the time when the dominating race on Mars had arrived approximately at your present mental status, the Lunarians were vastly advanced.

"The Moon was palpably growing old, and unfitted for the easy maintenance of its inhabitants. As it had been the first to be habitable, so it would be the first to be uninhabitable. As to the causes of this, I cannot enter now, but will explain them on a future occasion. The near neighborhood of your Earth had much to do with it. The Lunarians saw ahead of them the time when daily revolution would altogether cease, and induce conditions, apart from the shrinkage of atmosphere and moisture, impossible for them any longer to combat. Generation after generation the contest with Nature, under less and less easy terms, became more strenuous. In judging the Lunarians, it is but just to recall all the facts.

"The science and intellect of these beings enabled them to make a minute investigation into the local conditions prevailing on the other members of the Solar System, or at all events, of the four inner members of it. They began to discuss the question: were there any among these that would afford a better home, if attainable? There was one—Mars! But this was already inhabited by beings of high intelligence, and with whom the Lunarians had succeeded in establishing communication. Could Mars be reached? *There was a way;* so horrible in its selfishness, so fiendish in its unspeakable wickedness, that the mind shrinks from thought contact with it, even after the lapse of a million years. But it is now my painful duty to tell you the terrible narrative.

"The Lunarians knew the double impracticability of transferring their bodies to Mars, impossible to launch themselves those millions of miles across the Zodiac and live, impossible to continue existence in the new world, even if they could safely arrive there.

Bacteria of the Different Planets

"THE conditions of health quite as much as the conditions of disease, depend on the microscopic forms of life, which teem both in our bodies and in our surroundings. The greater number of the latter are only innocuous because, by being, *ab initio*, accustomed to their action, we have acquired immunity. But these bacterial and other low forms of life are quite different on Mars from those which are common to the Earth and her satellite. The result would be that no animal form of life from the one could continue to exist on the other. It would be the defenceless victim to unnumbered new diseases, any one of which would be fatal. *Yet there was a way!*

"Have you thought of the fact that so far as your will is concerned you are now completely under my influence? That it was an easy thing for me to hold intercourse with you for twenty hours without your knowledge? That without even knowing why, without consciousness of the outside influence, you came to this present interview at the appointed moment, and *in spite of your having resolved to the contrary?* What you do not realize is that you had no option in the matter. That lay entirely with me. But such powers as mine, while no doubt greater in degree, although not perhaps very different in kind, from what is known on your Earth, are as nothing, compared to the powers possessed by the Lunarians, both now and at the time I speak of, when neither your world nor mine had a reasoning being on it.

"It was an easy thing for a Lunarian to establish with a fellow-being, by mutual consent, a mental *rapport*, and not only thus to exchange ideas without outward physical means, but even to exchange personalities, which practically amounts to exchanging bodies. But it need not be with a fellow Lunarian. It could be with any being of sufficiently high mental status to be brought on the same plane of mental *rapport*, and mere physical distance had nothing to do with it. In the case of weaker beings, no mutual consent was necessary. Once that intercourse enabled them by hypnotic influence to establish this *rapport*, they could compel the weaker will. The awful idea was conceived, and in due course remorselessly carried out, of effecting bodily exchange with the unfortunate Martians of those days.

An Appalling Interplanetary Crime

"INTO all the details of this appalling crime, extending over weeks, it is not necessary to enter. The science of the Lunarians, amplified as to Martian local conditions by intercourse with their intended victims, enabled them to acquire in advance all the needed particulars and data for successfully mastering, and dealing with, the new conditions, so that in taking possession of their, to them, new bodies, they were at no loss as to procedure. On the contrary, each Martian awoke from his hypnotic sleep to find himself, not himself, so far as his bodily form was concerned, but some strange, and, to him, loathsome creature, in a world of which he knew nothing. Reason could not stand so great a shock; in raving dementia he died. So six hundred million beings of high intellect and culture perished. This is the greatest tragedy that our Sun has ever looked on.

"The invaders now inhabited a new world full of life and beauty, with a fauna and flora of infinite variety, splendor and novelty, and general conditions of life making their existence as a race pleasant and easy. But everything in the Universe is a means to an end, and crime is no exception, and its end is not happiness. The essence of crime is selfishness. The crime of the Lunarians, whom we will henceforth speak of as Martians, was a race crime. It was not lacking in heroic qualities so far as the individuals who carried it out were concerned. To them personally the advantages were questionable, the sacrifice inevitable.

"It must be remembered that each of them, no less than his victim, now inhabited a body at least as unattractive to him as his to the poor unfortunate who had been forced into it. Moreover, the older and vastly superior of the two races could not but feel

degraded by the more primitive and undeveloped bodily form, and one far less suited, by the modelling effect of ages of adaptation, to be the tools of his will. In this connection the matter of language alone need be mentioned, it having to be translated into entirely new sounds of articulation. Time only could alleviate these conditions, and the passing of the generation alone entirely remove them.

"The excuse the Martians made for themselves was that the conditions of Lunar life were becoming such as to threaten, by deteriorating their bodily welfare, to impair their mental powers, to lower, and ultimately extinguish, the splendid intellect of which they were so justly proud. If, they pleaded, one of the two races must perish, why should not the higher survive? Note that their argument, in speaking of races, disdains the mere physical part, and deals alone with that which dwells in it; for of course, in their transfer, so far as the physical form was concerned, it was the higher which perished.

The Martians Could Not Exist on the Earth or in Venus

"AND now the sequel. Too late it came to their knowledge, in the light of the future ages, that their previous abode had not been so nearly uninhabitable as they had feared; that it had been calculated to last as their abode as a race, possible of habitation, until its greater companion sphere was fit for their reception, that the increasing difficulties of lunar existence were exactly calculated, not to destroy, but to stimulate and enhance their powers of both mind and body, until their physical transfer to Earth was possible; that their growing science would have been in good time sufficient to carry this out in a perfectly legitimate way, by launching their bodies across the comparatively trivial distance to their terrestrial goal, where they would have been competent to live and advance, for the bacterial forms of life on the Earth and its satellite are the same.

"At this moment, so great has been their scientific advance, that the problem of making the journey and arriving safely on Earth, not merely from the Moon, but from Mars, is within their ability to solve; but, as already mentioned, it would, from the latter, be fatal, as Martian organisms could not exist on Earth, or, we are thankful to say, on Venus either. From this natural and happy *dénouement* they have, therefore, forever cut themselves off, to their eternal regret. They see the error of the evil deed of their ancestors, but do not see any way to avoid its consequence by any deed less evil. But they are as anxious to leave Mars as their ancestors were to gain it. One reason is that from the moment of their arrival on Mars, a result that they wholly failed to foresee, they have intellectually ceased to advance. Scientifically, only, have they advanced; a very different thing. The other reason is that Mars is now growing old.

The Fall of the Lunarians

"BEFORE the evil thought occurred to the Lunarians, they were, in all respects, an advancing and a noble people, natural heirs to a heritage the full extent of which is even now not apparent. Wherever their gaze might fall on the worlds around them, they could see that there was nothing equal to themselves. Their industry ever kept pace with their intellect; their stupendous energy was always equal to the heightening struggle with Nature. The mastery they gained over their globe and its conditions surpassed praise. As water, and even atmosphere, began to fail them, the enormous circular reservoirs they made for its conservation, and which must be so plainly visible from your Earth, stand to this day, in their roofless ruin, everlasting monuments to their abilities.

"It is now maddening to the Martian, still immeasurably our superior, to see us ever advancing, however slowly, however painfully, ever advancing on the road where he stands motionless, distanced, as it seems, to be overtaken and passed in the race. From the days of his forefathers' iniquity his former nobility seems dead. His intellect, vast as it is beyond our power to measure, seems no longer harmonized to high ideals, but to evil, which is probably the reason why it is stagnant.

"And now we come to your danger, and, with your mind prepared by the history to which you have listened, it can be stated in a single sentence. As he treated the former Martians, so he——"

Abrupt End of the Manuscript

HERE the shorthand manuscript ceased abruptly. It was evidently at this point that the occurrence happened, whatever it might have been, that caused Macrae not only to cease his notes, but to fall to the floor in the remarkable condition in which he still lay.

For some minutes Captain Evered sat gazing straight in front of him. Then he rang for his orderly and instructed him to ask Dr. Anderson to come to his cabin at once.

As he entered, Anderson looked quickly at his superior. "Sit down," was all Captain Evered said.

After fully a minute's pause, he continued: "Mad as a March hare, what?"

"I question it," remarked Anderson dryly, not yet recovered from the unceremonious interruption of his long-deferred sleep.

"But the fellow didn't know what he was writing about," persisted Captain Evered.

"Well, somebody did!" said Anderson quietly. "I don't think you can read this over carefully, and seriously believe that it bears any resemblance to the incoherences of madness, or could be composed by any one who did not know what he was doing."

"Great Scot! You are not telling me that you believe this story?"

"That is hardly the question, sir. I think we may leave the truth or otherwise of the narrative on one side for the moment. The question is: where did it come from?"

"Well, it came from Macrae, of course. We can't go beyond that."

"I never saw Macrae to speak to," said Anderson; "you have. You have described him from his character, and his education, or rather, lack of it. I accept your account of him as correct. But that story," pointing to the papers in Evered's hand, "teems on points of astronomy, evolution, physiology and other sciences, and always after the manner of one well acquainted with them, or at least in a way certainly impossible to one so entirely ignorant of them as you know Macrae to have been."

Dr. Anderson leaned back with the air of a man who challenges confutation.

"Quite so!" said Captain Evered. "I see your point. I'll go through this again, and we will have a further talk about it. What is your theory?"

"So far, I have none, sir," replied Anderson; "none whatever! I'm completely at fault!"

A Theory Searched for to Solve the Mystery

IN the course of the day Captain Evered read Macrae's story again, looking out for the different points indicated by the doctor, and he realized the force of his observations.

"Anderson is right," he muttered. "Macrae no more wrote this out of his own head than I did; couldn't have done it. Who the devil did it?"

Captain Evered had arrived at the same point previously reached by Dr. Anderson.

The doctor was meanwhile curious as to the result of Evered's further study of the document. Towards evening he was sent for.

"Queer thing, this radio telegraphy and telephony, Anderson," said Captain Evered, as the doctor entered his cabin. "Do you believe in the planets being inhabited?"

"Professor Rudge is firmly convinced that one at least is. He considers Schiaparelli's discoveries to have absolutely proved it so far as Mars is concerned. He wants in fact to try and signal to them in some way. Other scientists are convinced that, if that planet is not inhabited, it shows many signs that it is not uninhabitable."

"So Rudge wants to get into communication with them, does he? A possibly dangerous proceeding, according to this," said Captain Evered, tapping the manuscript.

Their eyes met for a moment. The doctor remained silent.

"Look here, Anderson, I believe we're both agreed that this yarn of Macrae's is quite the tallest we've ever heard, and also that there is some mystery about it that wants clearing up. The infernal thing has been running through my head all day, and I am no forwarder. Are you?"

"Your case, sir, is mine exactly. I'm stuck," Anderson confessed.

"Then what ought I to do?"

"If you really wish to know what I should do were I in your place, sir, I should ask the Admiralty to trust some eminent scientist, such as Professor Rudge, whom we just mentioned, with the secret of the Station, and place Macrae's writings in his hands—and so wash yours of all responsibility."

"Capital! That's what I'll do. There is a further point in its favor. Professor Rudge, as the inventor of the method of this new system of telephony without which these long distance installations would have been impossible, was called into consultation when they were contemplated and their sites chosen. He already knows of the existence of Station X."

"Then there can be no difficulty. I only wish in addition to placing the papers in his hands, we could place there Macrae also, poor fellow."

"You still see no chance of his recovery? If he is not actually dead, it cannot be quite hopeless, can it?"

"I'm quite convinced he will not recover, but insensibly merge from his trance into death," said Anderson, with conviction.

Here their conversation was interrupted by some one knocking at the door.

"Come in," said Captain Evered, and a sailor put in his head.

"If you please, sir, Mr. Macrae has got out of his bunk, and is walking about the ship in his blanket, asking for you, sir. He seems a bit dazed like."

"Ye gods!" muttered Anderson, as he and Captain Evered left the cabin.

CHAPTER VI

Professor Rudge Investigates

NEVER was a medical man more pleased at a wrong diagnosis than Dr. Anderson in regard to the mysterious case of Alan Macrae. To the natural satisfaction of seeing the return to life of a patient of whom he had despaired, was added the anticipation of probing further the interesting problem that now engrossed their thoughts. There was now a chance that he would be able to investigate for himself, not only into the mental state of Macrae, but also into his character and attainments, and so definitely satisfy himself as to whether this alleged communication had taken place. He had already convinced himself that a belief in its possibility was far from scientifically absurd, and he knew that in this he was backed by some of the most eminent scientists of the day.

On taking charge of his patient, he at once saw that the poor fellow was not so much "dazed" as excited, and it was some time before he could be soothed—not, in fact, until it had been explained to him how he came to be on board the *Sagitta*. Dr. Anderson answered his questions while getting him as quickly as possible back to his cabin. Macrae then gradually calmed down, took nourishment, and slept, thereby relieving Dr. Anderson from the fears he was beginning to entertain.

A Quick Recovery of the Operator from His Catalyptic State

AFTER this he made a quick recovery, showing that there was nothing organically wrong, and that the elasticity of youth had not been permanently impaired. Two days elapsed before Dr. Anderson would allow his patient to be questioned as to what had happened to him in the signal-room of Station X. Macrae on his part showed no disposition to discuss the subject. It was partly on account of this tacit avoidance of it on the invalid's part that Dr. Anderson deprecated the subject being forced on him too soon. "The blow," he said, "whatever it was, was struck on the nervous system, and if there is any danger for him, it is there we must look for it."

Toward the close of the second day, Macrae seemed so fully himself again, apart from some physical weakness, that the doctor decided that there would be no harm in a little judicious questioning. He had already convinced himself that there was no trace of insanity in his patient.

He therefore determined to ascertain if Macrae were really averse to entering on the topic, and, if not, to prepare him for a visit from Captain Evered.

"Surely, sir," said Macrae, on seeing the doctor enter, "I am well enough to get up now. In fact, there is nothing the matter with me except weakness through lying here so long!"

"And not having had anything to eat for a week before that, my lad; you might include that, eh? However, I intend to let you loose tomorrow. You must not think a couple of days' rest and judicious stoking too much after your experience.

Talking about your experience, there is no wish to press you to go into that subject before you feel well enough, but the Captain wants to have a talk with you.

"I have been expecting this, sir. I must of course explain, although the thing I shall have to tell has nothing to do with my official duties."

"What thing?" asked the doctor.

Talking It Over with the Operator

"MY experience on the island, sir. It's so strange that no one will believe it. I can scarcely believe it myself. It is not very pleasant to know that I shall be looked upon as either mad or a liar."

"Don't be so sure of that, and you mustn't regard your talks with the Captain or me as official examinations. That will, no doubt, come later in London. You shall tell us just as much or as little as you wish, and on no account go into anything that will unduly excite you."

"When speaking of it, sir, I would prefer to tell the whole thing, but I don't quite know how to begin. The Captain of course knows how I came to be alone on the island."

"Yes—ah, here he is!" he broke off, as Captain Evered entered.

"Well, Macrae," he said, smiling pleasantly, "feel better?"

"I am all right now, I think, sir; but this dreadful affair with Lieutenant Wilson, and the mysteries on top of it, have been a bit too much for me."

"You were surprised to find yourself on board the *Sagitta*, I expect?" suggested Captain Evered.

"Yes, sir, I did not expect that."

"Do you remember all that took place at the station? Of course I have seen the official record, and have also looked through your private account of your experiences. I am afraid it will have to be impounded, as it contains several things that might give away the position of the station if it fell into improper hands."

"I'm very sorry, sir," said Macrae, coloring, "if I've done anything wrong."

"Not intentionally, I am sure," said Captain Evered kindly; "but perhaps you have not quite realized the extreme caution requisite. Tomorrow, probably, we shall be landing you at Hong-Kong. Remember the solemn engagement you made when signing on not to communicate anything to an unauthorized person in any way referring to Station X. We will speak of that again in the morning. Just now Dr. Anderson and I wish to hear your last recollections on the island. Can you tell us how you came to be as we found you?"

"I am glad to hear that you have read my diary, sir, for although it was not intended for any one but the girl I am engaged to, it saves a lot of explanation now. I can quite well see that any one reading what I have written must naturally put me down for either a liar or a lunatic. But I can solemnly assure you, sir, that what I have written is the truth."

"You remember all you have written?" asked Captain Evered. "You remember having conversations with some one who informed you he was speaking to you from another planet—in fact, from Venus?"

"I remember all quite clearly," said Macrae earnestly, "and I have written down the exact words that passed. The last conversation is still in shorthand only. If you wish, sir, I will now write it out."

"I was about to tell you when Captain Evered came in," said Anderson, "that I have transcribed your shorthand. So that brings us down to the point where it ends so abruptly."

The Interruption of the Communication

MACRAE hesitated for a moment, as if loth to enter upon so distasteful a topic.

"Yes," he said, at length, "it does leave off suddenly. That was when the interruption came."

"The interruption?" said the doctor. "What interruption?"

"Well, sir, it all began and ended in a few seconds. I scarcely know how to describe it. The voice was speaking to me, and seemed to be about to warn me of something, when suddenly there was another voice, a greater voice, oh! a voice"—Macrae sat up, and his hearers were surprised to see the look of awe that came into his face—"I cannot describe it. It seemed to have great authority."

"What did it say?" said the doctor.

After a pause, during which Macrae was evidently taxing his memory, he said:

"I cannot recall it. I seem to have a sort of remembrance of something; that is the only way I can say it, but it is misty, all covered up. I can't remember the words, only the voice.

Seeing the examination had proceeded as far as was good for his patient, Dr. Anderson half rose with a view to close the conversation, but Captain Evered motioned him to sit down again. He then said to Macrae:

"You said, 'a great voice.' Do you mean a louder voice, one that you could hear more distinctly, and which drowned the other?"

"I don't know that it was a louder voice," said Macrae; "but there was something in the tone, the force of it, that would make one attend. I can't describe it any more."

"It had a great influence on you, then?" inquired Captain Evered.

"Yes; a great influence," replied Macrae, with an involuntary shudder.

"How long did it last?"

A Violent Blow—Oblivion

"AT once there was an interruption from the first voice, and sounds like a dispute, but not in words. It all began and ended so quickly, that it's a sort of jumble in my recollection. The only thing that remains clear is that two voices came through the instrument, and spoke to me at the same time. Although I can't remember the words, I know both seemed to exert an influence on

me. The one seemed fighting the other, but the second voice was gaining. Then there was suddenly something like darkness, and a sharp command from the first voice. I seemed to be struck a violent blow on the back of my head. The next thing I knew was finding myself on board this ship."

"That is absolutely all you know about it?" questioned Captain Evered.

"That is all, sir."

"Try and forget it for to-night," said the doctor. "Get to sleep as fast as you can, and to-morrow get up and have a turn on deck."

They wished him "good-night," and left the cabin. For hours the two men talked in the privacy of Captain Evered's cabin, but they ended as they began. Each knew that he was half carried away by the story Macrae had told, both from the internal evidence of the report itself, and his evident sincerity. At the same time each saw its extraordinary nature too clearly to admit yielding an entire belief in it, even to himself, much less to any one else.

"He seems perfectly sane to you?" questioned Captain Evered.

"Quite so; as rational as you or I," was the response.

"Well, I shall follow your advice respecting Professor Rudge," said Captain Evered. "There should be no difficulty in his seeing Macrae. We shall land him to-morrow, and from Hong-Kong he will be invalided home, accompanied by my report, and, of course, these writings of his. I shall report him as not, in my opinion, suited to this kind of service. You will be able to endorse that."

"I can," said Anderson. "Macrae is one of the subjective sort. Did you notice how full his diary is of himself?"

"Exactly. By the by, what did you make of two voices, and a blow on the head?"

"Well, I suppose two voices are not more mysterious than one," said Anderson. "If you can believe in one, why not two? According to him, there would appear to be disagreement sometimes, even among our friends the Venerians. There's a party, I suppose, who want to have nothing to do with us."

"Probably," smiled Captain Evered, adding, "I intend, in addition to suggesting that this account of his be submitted to Professor Rudge, to drop a private line or two to the Professor himself, letting him know there is something in the wind. A Government Department, my dear Anderson (being in this case the Admiralty, I hope I am not speaking blasphemy), will go about as far as it is kicked. But I think Rudge will not let them shelve it."

The Operator Returns to His Sweetheart

SO it came about that Macrae found himself on the homeward journey much before he had anticipated when leaving England. It did not exhilarate him, as he was oppressed with a feeling of failure, without being able to see how he could have done differently. He was afraid that what would be looked upon as a preposterous story would militate against him, and the Government might not find him even home employment. This feeling of depression lasted until entering the Bay of Biscay, when grey skies reminded him of his native hills. The wind of the Atlantic, with a tooth in it, blew on him, and his spirits rose.

A telegram advised May Treherne of her lover's unexpected return, and she was at Portsmouth to meet him. Hers was one of the first faces he saw, and her welcome completed the cure that northern skies had begun.

Macrae's keen eyes did not fail to see in hers the involuntary question that tact was keeping from her lips, and he wondered how he was going to answer it, seeing that he was bound to secrecy.

It was no secret that he had been at a "wireless" station, and there could not be any breach of trust in saying the position was somewhat isolated. There were plenty which that description would suit. So he told her how, during a short absence of his from the station-house, his fellow workers had been murdered, and he had returned to find their dead bodies, and himself the only survivor; how he had fallen unconscious; how, in consequence of the shock to his system, he had been relieved, and placed on sick leave and ultimately sent back for service at a home station. He added that there were some other details which, in view of the strictness of official secrecy he could not divulge.

She was horrified at the tale, and clung to him in her gratitude that he had escaped.

"Suppose, dear Alan, you had been at the station when those wretches murdered your companions. You would have been murdered too. Oh! I am glad you are back in England. When I got your telegram I was awfully surprised."

He saw his explanation had relieved her mind of something. It also seemed to have loosened her tongue, for now he had very little to do but be a patient listener, and hear a full account of her somewhat uneventful history during his absence, and discuss plans for the future as modified by this new development.

The Government Investigations in London

THAT evening May Treherne returned to Plymouth, and Macrae proceeded to report himself in London. The next morning he presented himself at the Admiralty, and was given an hour at which to attend the next day, "when the report respecting him would have been read." He then found himself put through a very searching examination, for there had been considerable nervousness that some scheme of a possible enemy was at the bottom of the business. It came as a surprise to the officials to find that after the most exhaustive questioning, nothing could be gleaned to lend color to this suspicion.

It was obviously a relief to his examiners to find that everything went to indicate that the deaths took place as officially reported, first by Macrae himself, and afterwards by the Captain of the *Sagitta*. For the rest, it had of course been a curious case of delusion while under the influence of nervous shock. His diary was confiscated. He was reprimanded for having written it, and especially for including expressions that would serve as indications of things that were Government secrets. He would for the future be retained at home stations so long as no further indiscretion was committed, and was further directed to present himself for duty at the end of a month, granted as leave of absence.

The next day found Macrae at Plymouth, and

now appeared the wisdom of Captain Evered in writing to Professor Rudge; for had he not done so, nothing further would have been heard of Macrae's experiences on the island of Station X.

The letter he received had not contained much information, but enough to make him want to know more. He had an interview with the First Lord and, as a result, Macrae's account of his experiences was placed in his hands, with the request that all requisite caution should be employed.

Professor Rudge read Macrae's account with unbounded astonishment. When he had read the pages a second time his mind was made up. He was a man of quick decision, and equally quick action.

The next morning Macrae received a letter from Professor Rudge, enclosing a remittance for expenses, and asking him as a favor to come back to town, and call on him at his earliest convenience, "with a view to the further investigation of your recent remarkable experience." This phrase showed Macrae that his correspondent must be in touch with the authorities, and he felt bound to comply at once, although not without a grumble both on his part and that of his *fiancée*.

Examination of the Operator

AGAIN Macrae found himself put through an examination. This time it was more searching, more detailed, more minute, than any he had had before. Absolutely no point escaped the *savant*. He was at least as competent as Dr. Anderson to investigate the examinee as to his mental health, far more competent to probe his character, disposition, ways of thought and general knowledge, and form an accurate opinion as to his personal peculiarities. Macrae himself described the process as that of being turned completely inside out.

Before it was finished he had taken a great liking to the Professor. The training of the scientist had taught Professor Rudge to approach his subject without prejudice, and, under the influence of his sympathetic manner, Macrae opened out and laid himself bare, as he would not have believed possible. Next, the conversation was turned on the radio installation at the station, and Macrae found that, on the subject he knew most of, his knowledge was small compared with that of his examiner. He was questioned on every detail, however apparently irrelevant.

Professor Rudge Decides to Visit Station X

FINALLY they went through, almost word for word, the communications of "the voice." Innumerable questions were asked respecting the voice itself. He was very especially questioned, he could not tell why, regarding any peculiarity in respect to stress or accent on the various syllables, and modulation of intonation. He was able to reply very intelligently to this, being quick to understand the meaning of the question, no doubt the more so from being himself bi-lingual. He noticed that the Professor seemed pleased at eliciting the information that, while the articulation and pronunciation were accurate, accent and modulation were notably deficient, making the style rather monotonous. A special peculiarity volunteered by Macrae, was that every sentence seemed to end abruptly, with no falling of the voice, as though, in fact, it had been intended to add more.

At last, when the examination seemed almost over, Macrae himself ventured to put the question as to what conclusion, if any, his questioner had come to.

"I have come to several, Macrae; and as I observed that you have an uncomfortable feeling that people will doubt your sincerity, let me at once say that such a thing is not intelligently possible. Even with the greatest desire to deceive, you could not possibly have duped me for a moment on this matter."

"The voice spoke to me?" asked Macrae eagerly.

"Undoubtedly. There is not the least possibility that you are yourself deceived in that," replied the professor.

"I am very glad I came to see you, sir," said Macrae, with a sigh of relief; "and all I ask now is to forget the whole thing, voice, island and all."

"Then you ask a great deal too much, my boy!" said Professor Rudge, with a smile. "Shall I tell you how much you have interested me? The best way to do so is to tell you the intention I have formed. I am going to visit Station X, and I am going to take you with me!"

(To be Continued in the August Issue)

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The MAN WHO COULD WORK MIRACLES

~ By H. G. Wells ~

It was enough to make any one say "Hallo!" The impossible, the incredible, was visible to them all. The lamp hung inverted in the air, burning quietly with its flame pointing down. It was as solid, as indisputable as ever a lamp was, the prosaic common lamp of the Long Dragon bar.

CHAPTER I

A Pantoum in Prose

The Bar of the Long Dragon

IT is doubtful whether the gift was innate. For my own part, I think it came to him suddenly. Indeed, until he was thirty he was a sceptic, and did not believe in miraculous powers. And here, since it is the most convenient place, I must mention that he was a little man, and had eyes of a hot brown, very erect red hair, a moustache with ends that he twisted up, and freckles. His name was George McWhirter Fotheringay—not the sort of name by any means to lead to any expectation of miracles—and he was clerk at Gomshott's. He was greatly addicted to assertive argument. It was while he was asserting the impossibility of miracles that he had his first intimation of his extraordinary powers. This particular argument was being held in the bar of the Long Dragon, and Toddy Beamish was conducting the opposition by a monotonous but effective "So *you* say," that drove Mr. Fotheringay to the very limit of his patience.

There were present, besides these two, a very dusty cyclist, landlord Cox, and Miss Maybridge, the perfectly respectable and rather portly barmaid of the Dragon. Miss Maybridge was standing with her back to Mr. Fotheringay, washing glasses; the others were watching him, more or less amused by the present ineffectiveness of the assertive method. Goaded by the Torres Vedras tactics of Mr. Beamish, Mr. Fotheringay determined to make an unusual rhetorical effort. "Looky here, Mr. Beamish," said Mr. Fotheringay. "Let us clearly understand what a miracle is. It's something contrariwise to the course of nature, done by power of will, something what couldn't happen unless specially willed."

"So *you* say," said Mr. Beamish, repulsing him.

Discussing Miracles. The Inverted Lamp

MR. FOTHERINGAY appealed to the cyclist, who had hitherto been a silent auditor, and received his assent—given with a hesitating cough and a glance at Mr. Beamish. The landlord would express no opinion, and Mr. Fotheringay, returning to Mr. Beamish, received the unexpected concession of a qualified assent to his definition of a miracle.

"For instance," said Mr. Fotheringay, greatly encouraged. "Here would be a miracle. That lamp in the natural course of nature, couldn't burn like that upsy-down, could it, Beamish?"

"You say it couldn't," said Beamish.

"And you?" said Fotheringay. "You don't mean to say—eh?"

"No," said Beamish reluctantly. "No, it couldn't."

"Very well," said Mr. Fotheringay. "Then here comes some one, as it might be me, along here, and stands as it might be here, and says to that lamp, as I might do, collecting all my will—Turn upsy-down without breaking, and go on burning steady, and——Hallo!"

It was enough to make any one say "Hallo!" The impossible, the incredible, was visible to them all. The lamp hung inverted in the air, burning quietly with its flame pointing down. It was as solid, as indisputable as ever a lamp was, the prosaic common lamp of the Long Dragon bar.

Mr. Fotheringay stood with an extended forefinger and the knitted brows of one anticipating a catastrophic smash. The cyclist, who was sitting next the lamp, ducked and jumped across the bar. Everybody jumped, more or less. Miss Maybridge turned and screamed. For nearly three seconds the lamp remained still. A faint cry of mental distress came from Mr. Fotheringay. "I can't keep it up," he said, "any longer." He staggered back, and the inverted lamp suddenly flared, fell against the corner of the bar, bounced aside, smashed upon the floor, and went out.

It was lucky it had a metal receiver, or the whole place would have been in a blaze. Mr. Cox was the first to speak, and his remark, shorn of needless excrescences, was to the effect that Fotheringay was a fool. Fotheringay was beyond disputing even so fundamental a proposition as that! He was astonished beyond measure at the thing that had occurred. The subsequent conversation threw absolutely no light on the matter so far as Fotheringay was concerned; the general opinion not only followed Mr. Cox very closely but very vehemently. Every one accused Fotheringay of a silly trick, and presented him to himself as a foolish destroyer of comfort and security. His mind was in a tornado of perplexity, he was himself inclined to agree with them, and he made a remarkably ineffectual opposition to the proposal of his departure.

He went home flushed and heated, coat-collar crumpled, eyes smarting, and ears red. He watched each of the ten street lamps nervously as he passed it. It was only when he found himself alone in his little bedroom in Church Row that he was able to grapple seriously with his memories of the occurrence, and ask, "What on earth happened?"

WHEN you start reading this story by the famous author you begin to wonder why such seeming nonsense ever was committed to paper. You begin to doubt if it was really written by H. G. Wells, and as you proceed the thought dawns upon you that he probably wrote it before he was ten years old.

This thought gains conviction until the final denouement, when the author fully reveals himself, and you have the sinking feeling that the joke is on you.

This interesting story should be read at least twice, in order to get the fullest enjoyment from it, and, incidentally although this story was written before the recognition of the Einstein Theory, it is an excellent illustration of the modern conception of time-space.

Personally we consider it a masterpiece and heartily recommend it to our readers.

CHAPTER II

The Power of the Human Will

HE had removed his coat and boots, and was sitting on the bed with his hands in his pockets repeating the text of his defence for the seventeenth time, "*I* didn't want the confounded thing to upset," when it occurred to him that at the precise moment he had said the commanding words he had inadvertently willed the thing he said, and that when he had seen the lamp in the air he had felt that it depended on him to maintain it there without being clear how this was to be done. He had not a particularly com-

plex mind, or he might have stuck for a time at that "inadvertently willed," embracing, as it does, the abstrusest problems of voluntary action; but as it was, the idea came to him with a quite acceptable haziness. And from that, following, as I must admit, no clear logical path, he came to the test of experiment.

He pointed resolutely to his candle and collected his mind, though he felt he did a foolish thing. "Be raised up," he said. But in a second that feeling vanished. The candle was raised, hung in the air one giddy moment, and as Mr. Fotheringay gasped, fell with a smash on his toilet-table, leaving him in darkness save for the expiring glow of its wick.

For a time Mr. Fotheringay sat in the darkness, perfectly still. "It did happen, after all," he said. "And 'ow *I'm* to explain it I *don't* know." He sighed heavily, and began feeling in his pockets for a match. He could find none, and he rose and groped about the toilet-table. "I wish I had a match," he said. He resorted to his coat, and there was none there, and then it dawned upon him that miracles were possible even with matches. He extended a hand and scowled at it in the dark. "Let there be a match in that hand," he said. He felt some light object fall across his palm and his fingers closed upon a match.

After several ineffectual attempts to light this, he discovered it was a safety match. He threw it down, and then it occurred to him that he might have willed it lit. He did, and perceived it burning in the midst of his toilet-table mat. He caught it up hastily, and it went out. His perception of possibilities enlarged, and he felt for and replaced the candle in its candlestick. "Here! *you* be lit," said Mr. Fotheringay, and forthwith the candle was flaring, and he saw a little black hole in the toilet-cover, with a wisp of smoke rising from it. For a time he stared from this to the little flame and back, and then looked up and met his own gaze in the looking-glass. By this help he communed with himself in silence for a time.

"How about miracles now?" said Mr. Fotheringay at last, addressing his reflection.

Mr. Fotheringay Practices Miracles Upon Himself With Great Success

THE subsequent meditations of Mr. Fotheringay were of a severe but confused description. So far, he could see it was a case of pure willing with him. The nature of his experiences so far disinclined him for any further experiments, at least until he had reconsidered them. But he lifted a sheet of paper, and turned a glass of water pink and then green, and he created a snail, which he miraculously annihilated, and got himself a miraculous new toothbrush. Somewhere in the small hours he had reached the fact that his will-power must be of a particularly rare and pungent quality, a fact of which he had indeed had inklings before, but no certain assurance. The scare and perplexity of his first discovery was now qualified by pride in this evidence of singularity and by vague intimations of advantage. He became aware that the church clock was striking one, and as it did not occur to him that his daily duties at Gomshott's might be miraculously dispensed with, he resumed undressing, in order to get to bed without further delay. As he struggled to get his shirt over his head, he was struck with a brilliant idea. "Let me be in bed," he said, and found himself so. "Undressed," he stipulated; and finding the sheets cold, added hastily, "and in my nightshirt—no, in a nice soft woolen nightshirt. Ah!" he said with immense enjoyment. "And now let me be comfortably asleep. . . ."

He awoke at his usual hour and was pensive all through breakfast-time, wondering whether his overnight experience might not be a particularly vivid dream. At length his mind turned again to cautious experiments. For instance, he had three eggs for breakfast; two his landlady had supplied, good, but shoppy, and one was a delicious fresh goose egg, laid, cooked, and served by his extraordinary will. He hurried off to Gomshott's in a state of profound but carefully concealed excitement, and only remembered the shell of the third egg when his landlady spoke of it that night. All day he could do no work because of this astonishing new self-knowledge, but this caused him no inconvenience, because he made up for it miracuously in his last ten minutes.

CHAPTER III.

More Miracles Astonishing the Natives

AS the day wore on his state of mind passed from wonder to elation, albeit the circumstances of his dismissal from the Long Dragon were still disagreeable to recall, and a garbled account of the matter that had reached his colleagues led to some bandinage. It was evident he must be careful how he lifted frangible articles, but in other ways his gift promised more and more as he turned it over in his mind. He intended among other things to increase his personal property by unostentatious acts of creation. He called into existence a pair of very splendid diamond studs, and hastily annihilated them again as young Gomshott came across the counting-house to his desk. He was afraid young Gomshott might wonder how he had come by them. He saw quite clearly the gift required caution and watchfulness in its exercise, but so far as he could judge the difficulties attending its mastery would be no greater than those he had already faced in the study of cycling. It was that analogy, perhaps, quite as much as the feeling that he would be unwelcome in the Long Dragon, that drove him out after supper into the lane beyond the gasworks, to rehearse a few miracles in private.

There was possibly a certain want of originality in his attempts, for, apart from his will-power, Mr. Fotheringay was not a very exceptional man. The miracle of Moses' rod came to his mind, but the night was dark and unfavourable to the proper control of large miraculous snakes. Then he recollected the story of "Tannhäuser" that he had read on the back of the Philharmonic programme. That seemed to him singularly attractive and harmless. He stuck his walking-stick—a very nice Poona-Penang lawyer—into the turf that edged the footpath, and commanded the dry wood to blossom. The air was immediately full of the scent of roses, and by means of a match he saw for himself that this beautiful miracle was indeed accomplished. His satisfaction was ended by advancing footsteps.

Afraid of a premture discovery of his powers, he addressed the blossoming stick hastily: "Go back." What he meant was "Change back"; but of course he was confused. The stick receded at a considerable velocity, and incontinently came a cry of anger and a bad word from the approaching person. "Who are you throwing brambles at, you fool?" cried a voice. "That got me on the shin."

Mr. Fotheringay Gets in Trouble with the Police and Disposes of the Officer as in the Next Chapter

"I 'M sorry, old chap," said Mr. Fotheringay, and then, realizing the awkward nature of the explanation, caught nervously at his moustache. He saw Winch, one of the three Immering constables, advancing.

"What do you mean by it?" asked the constable. "Hallo! it's you, is it? The gent that broke the lamp at the Long Dragon!"

"I don't mean anything by it," said Mr. Fotheringay. "Nothing at all."

"What d'yer do it for then?"

"Oh, bother!" said Mr. Fotheringay.

"Bother indeed! D'yer know that stick hurt? What d'yer do it for, eh?"

For the moment Mr. Fotheringay could not think what he had done it for. His silence seemed to irritate Mr. Winch. "You've been assaulting the police, young man, this time. That's what *you* done."

"Look here, Mr. Winch," said Mr. Fotheringay, annoyed and confused. "I'm sorry, very. The fact is——"

"Well?"

He could think of no way but the truth. "I was working a miracle." He tried to speak in an offhand way, but try as he would he couldn't.

CHAPTER IV.

More Trouble About the Policeman

"WORKING a——! 'Ere, don't you talk rot. Working a miracle, indeed! Miracle! Well, that's downright funny! Why, you's the chap that don't believe in miracles . . . Fact is, this is another of your silly conjuring tricks—that's what this is. Now, I tell you——"

But Mr. Fotheringay never heard what Mr. Winch was going to tell him. He realized he had given himself away, flung his valuable secret to all the winds of heaven. A violent gust of irritation swept over him to action. He turned on the constable swiftly and fiercely. "Here," he said, "I've had enough of this, I have! I'll show you a silly conjuring trick, I will! Go to Hades! Go, now!

He was alone!

Mr. Fotheringay performed no more miracles that night, nor did he trouble to see what had become of his flowering stick. He returned to the town, scared and very quiet, and went to his bedroom. "Lord!" he said, "it's a powerful gift—an extremely powerful gift. I didn't hardly mean as much as that. Not really . . . I wonder what Hades is like!"

He sat on the bed taking off his boots. Struck by a happy thought he transferred the constable to San Francisco, and without any more interference with normal caution went soberly to bed. In the night he dreamt of the anger of Winch.

The next day Mr. Fotheringay heard two interesting items of news. Some one had planted a most beautiful climbing rose against the elder Gomshott's private house in the Lullaborough Road, and the river as far as Rawling's Mill was to be dragged for Constable Winch.

Mr. Fotheringay was abstracted and thoughtful all that day, and performed no miracles except certain provisions for Winch, and the miracle of completing his day's work with punctual perfection in spite of all the bee-swarm of thoughts that hummed through his mind. And the extraordinary abstraction and meekness of his manner was remarked by several people, and made a matter of jesting. For the most part he was thinking of Winch.

On Sunday evening he went to chapel, and, oddly enough, Mr. Maydig, who took a certain interest in occult matters, preached about "things that are not lawful." Mr. Fotheringay was not a regular chapel-goer, but the system of assertive sckepticism, to which I have already alluded, was now very much shaken. The tenor of the sermon threw an entirely new light on these novel gifts, and he suddenly decided to consult Mr. Maydig immediately after the service. So soon as that was determined he found himself wondering why he had not done so before.

Mr. Maydig, a lean, excitable man with quite remarkably long wrists and neck, was gratified at a request for a private conversation from a young man whose carelessness in religious matters was a subject for general remark in the town. After a few necessary delays, he conducted him to the study of the manse, which was contiguous to the chapel, seated him comfortably, and, standing in front of a cheerful fire—his legs threw a Rhodian arch of shadow on the opposite wall—requested Mr. Fotheringay to state his business.

At first Mr. Fotheringay was a little abashed, and found some difficulty in opening the matter. "You will scarcely believe me, Mr. Maydig, I am afraid" —and so forth for some time. He tried a question at last, and asked Mr. Maydig his opinion of miracles.

CHAPTER V.

Interviewing a Clergyman

MR. MAYDIG was still saying "Well" in an extremely judicial tone, when Mr. Fotheringay interrupted again: "You don't believe, I suppose, that some common sort of person —like myself, for instance—as it might be sitting here now, might have some sort of twist inside him that made him able to do things by his will."

"It's possible," said Mr. Maydig. "Something of the sort, perhaps, is possible."

"If I might make free with something here, I think I might show you by a sort of experiment," said Mr. Fotheringay. "Now, take that tobacco-jar on the table, for instance. What I want to know is whether what I am going to do with it is a miracle or not. Just half a minute, Mr. Maydig, please."

He knitted his brows, pointed to the tobacco-jar and said: "Be a bowl of vi'lets."

The tobacco-jar did as it was ordered.

Mr. Maydig started violently at the change, and stood looking from the thaumaturgist to the bowl of

flowers. He said nothing. Presently he ventured to lean over the table and smell the violets; they were fresh-picked and very fine ones. Then he stared at Mr. Fotheringay again.

"How did you do that?" he asked.

Mr. Fotheringay pulled his moustache. "Just told it—and there you are. Is that a miracle, or is it black art, or what is it? And what do you think's the matter with me? That's what I want to ask."

"It's a most extraordinary occurrence."

"And this day last week I knew no more that I could do things like that than you did. It came quite sudden. It's something odd about my will, I suppose, and that's as far as I can see."

"Is that—the only thing. Could you do other things besides that?"

"Lord, yes!" said Mr. Fotheringay. "Just anything." He thought, and suddenly recalled a conjuring entertainment he had seen. "Here!" he pointed, "change into a bowl of fish—not, not that—change into a glass bowl full of water with goldfish swimming in it. That's better! You see that, Mr. Maydig?"

"It's astonishing. It's incredible. You are either a most extraordinary . . . But no——"

"I could change it into anything," said Mr. Fotheringay. "Just anything. Here! be a pigeon, will you?"

In another moment a blue pigeon was fluttering round the room and making Mr. Maydig duck every time it came near him. "Stop there, will you?" said Mr. Fotheringay; and the pigeon hung motionless in the air. "I could change it back to a bowl of flowers," he said, and after replacing the pigeon on the table worked that miracle. "I expect you will want your pipe in a bit," he said, and restored the tobacco-jar.

Mr. Maydig Very Much Interested

MR. MAYDIG had followed all these later changes in a sort of ejaculatory silence. He stared at Mr. Fotheringay and in a very gingerly manner picked up the tobacco-jar, examined it, replaced it on the table. *"Well!"* was the only expression of his feelings.

"Now, after that it's easier to explain what I came about," said Mr. Fotheringay; and proceeded to a lengthy and involved narrative of his strange experiences, beginning with the affair of the lamp in the Long Dragon and complicated by persistent allusions to Winch. As he went on, the transient pride of Mr. Maydig's consternation had caused passed away; he became the very ordinary Mr. Fotheringay of everyday intercourse again. Mr. Maydig listened intently, the tobacco-jar in his hand, and his bearing changed also with the course of the narrative. Presently, while Mr. Fotheringay was dealing with the miracle of the third egg, the minister interrupted with a fluttering, extended hand.

"It is possible," he said. "It is credible. It is amazing, of course, but it reconciles a number of amazing difficulties. The power to work miracles is a gift—a peculiar quality like genius or second sight; hitherto it has come very rarely and to exceptional people. But in this case . . . I have always wondered at the miracles of Mahomet, and at Yogi's miracles, and the miracles of Madame Blavatsky. But, of course—— Yes, it is simply a gift! It carries out so beautifully the arguments of that great thinker"—Mr. Maydig's voice sank—"his Grace the Duke of Argyll. Here we plumb some profounder law—deeper than the ordinary laws of nature. Yes—yes. Go on. Go on!"

CHAPTER VI

A Long Talk With the Clergyman About Miracles

MR. FOTHERINGAY proceeded to tell of his misadventure with Winch, and Mr. Maydig, no longer overawed or scared, began to jerk his limbs about and interject astonishment. "It's this what troubled me most," proceeded Mr. Fotheringay; "it's this I'm most mijitly in want of advice for; of course he's at San Francisco—wherever San Francisco may be—but of course it's awkward for both of us, as you'll see, Mr. Maydig. I don't see how he can understand what has happened, and I dare say he's scared and exasperated something tremendous, and trying to get at me. I dare say he keeps on starting off to come here. I send him back, by a miracle every few hours when I think of it. And of course, that's a thing he won't be able to understand, and it's bound to annoy him; And, of course, if he takes a ticket every time it will cost him a lot of money. I done the best I could for him, but, of course, its's difficult for him to put himself in my place. I thought afterwards that his clothes might have got scorched, you know—if Hades is all it's supposed to be—before I shifted him. In that case I suppose they'd have locked him up in San Francisco. Of course I willed him a new suit of clothes on him directly I thought of it. But, you see, I'm already in a deuce of a tangle ——"

Mr. Maydig looked serious. "I see you are in a tangle. Yes, it's a difficult position. How you are to end it . . ." He became diffused and inconclusive.

"However, we'll leave Winch for a little and discuss the larger question. I don't think this is a case of the black art or anything of the sort. I don't think there is any taint of criminality about it at all, Mr. Fotheringay—none whatever, unless you are suppressing material facts. No, it's miracles—pure miracles—miracles, if I may say so, of the very highest class."

He began to pace the hearthrug and gesticulate, while Mr. Fotheringay sat with his arm on the table and his head on his arm, looking worried. "I don't see how I'm to manage about Winch," he said.

"A gift of working miracles—apparently a very powerful gift," said Mr. Maydig, "will find a way about Winch—never fear. My dear sir, you are a most important man—a man of the most astonishing possibilities. As evidence, for example! And in other ways, the things you may do . . ."

"Yes, *I've* thought of a thing or two," said Mr. Fotheringay. "But—some of the things came a bit twisty. You saw that fish at first? Wrong sort of bowl and wrong sort of fish. And I thought I'd ask some one."

"A proper course," said Mr. Maydig, "a very proper course—altogether the proper course." He stopped and looked at Mr. Fotheringay. "It's practically an unlimited gift. Let us test your powers.

For instance——If they really *are* . . . If they really are all they seem to be."

The Clergyman Calls for More Miracles

AND so, incredible as it may seem, in the study of the little house behind the Congregational Chapel, on the evening of Sunday, Nov. 10, 1896, Mr. Fotheringay, egged on and inspired by Mr. Maydig, began to work miracles. The reader's attention is specially and definitely called to the date. He will object, probably has objected, that certain points in this story are improbable, that if any things of the sort already described had indeed occurred, they would have been in all the papers at that time. The details immediately following he will find particularly hard to accept, because among other things they involve the conclusion that he or she, the reader in question, must have been killed in a violent and unprecedented manner more than a year ago. Now a miracle is nothing if not improbable, and as a matter of fact the reader *was* killed in a violent and unprecedented manner in 1896. In the subsequent course of this story that will become perfectly clear and credible, as every right-minded and reasonable reader will admit. But this is not the place for the end of the story, being but little beyond the hither side of the middle. And at first the miracles worked by Mr. Fotheringay were timid little miracles—little things with the cups and parlour fitments, as feeble as the miracles of Theosophists, and, feeble as they were, they were received with awe by his collaborator. He would have preferred to settle the Winch business out of hand, but Mr. Maydig would not let him. But after they had worked a dozen of these domestic trivialities, their sense of power grew, their imagination began to show signs of stimulation, and their ambition enlarged. Their first larger enterprise was due to hunger and negligence of Mrs. Minchin, Mr. Maydig's housekeeper. The meal to which the minister conducted Mr. Fotheringay was certainly ill-laid and uninviting as refreshment for two industrious miracle-workers, but they were seated, and Mr. Maydig was descanting in sorrow rather than in anger upon his housekeeper's shortcomings, before it occurred to Mr. Fotheringay that an opportunity lay before him.

"Don't you think, Mr. Maydig," he said, "if it isn't a liberty, *I*——"

"My dear Mr. Fotheringay! Of course! No—I don't think."

CHAPTER VII.

A Miraculous Meal and Many Reforms

MR. FOTHERINGAY waved his hand. "What shall we have?" he said, in a large, inclusive spirit, and, at Mr. Maydig's order, revised the supper very thoughtfully. "As for me," he said, eyeing Mr. Maydig's selection, "I am always particularly fond of a tankard of stout, and a nice Welsh rarebit, and I'll order that. I ain't much given to Burgundy," and forthwith stout and Welsh rarebit promptly appeared at his command. They sat long at their supper, talking like equals, as Mr. Fotheringay presently perceived, with a glow of surprise and gratification, of all the miracles they would presently do. "And, by-the-by, Mr. Maydig," said Mr. Fotheringay, "I might perhaps be able to help you—in a domestic way."

"Don't quite follow," said Mr. Maydig, pouring out a glass of miraculous old Burgundy.

Mr. Fotheringay helped himself to a second Welsh rarebit out of vacancy, and took a mouthful. "I was thinking," he said, "I might be able (*chum, chum*) to work (*chum, chum*) a miracle with Mrs. Minchin (*chum, chum*)—make her a better woman."

Mr. Maydig put down the glass and looked doubtful. "She's—She strongly objects to interference, you know, Mr. Fotheringay. And—as a matter of fact—it's well past eleven and she's probably in bed and asleep. Do you think, on the whole——"

Mr. Fotheringay considered these objections. "I don't see that it shouldn't be done in her sleep."

For a time Mr. Maydig opposed the idea, and then he yielded. Mr. Fotheringay issued his orders, and a little less at their ease, perhaps, the two gentlemen proceeded with their repast. Mr. Maydig was enlarging on the changes he might expect in his housekeeper next day with an optimism that seemed even to Mr. Fotheringay's supper sense a little forced and hectic, when a series of confused noises from upstairs began. Their eyes exchanged interrogations, and Mr. Maydig left the room hastily. Mr. Fotheringay heard him calling up to his housekeeper and then his footsteps going softly up to her.

In a minute or so the minister returned, his step light, his face radiant. "Wonderful!" he said, "and touching! Most touching!"

He began pacing the hearthrug. "A repentance—a most touching repentance—through the crack of the door. Poor woman! A most wonderful change! She had got up. She must have got up at once. She had got up out of her sleep to smash a private bottle of brandy in her box. And to confess it too! . . . But this gives us—it opens—a most amazing vista of possibilities. If we can work this miraculous change in *her* . . ."

"The thing's unlimited seemingly," said Mr. Fotheringay. "And about Mr. Winch——"

"Altogether unlimited." And from the hearthrug Mr. Maydig, waving the Winch difficulty aside, unfolded a series of wonderful proposals—proposals he invented as he went along.

Now what those proposals were does not concern the essentials of this story. Suffice it that they were designed in a spirit of infinite benevolence, the sort of benevolence that used to be called post-prandial. Suffice it, too, that the problem of Winch remained unsolved. Nor is it necessary to describe how far that series got to its fulfilment. There were astonishing changes. The small hours found Mr. Maydig and Mr. Fotheringay careering across the chilly market square under the still moon, in a sort of ecstasy of thurmaturgy, Mr. Maydig all flap and gesture, Mr. Fotheringay short and bristling, and no longer abashed at his greatness. They had reformed every drunkard in the Parliamentary division, changed all the beer and alcohol to water (Mr. Maydig had overruled Mr. Fotheringay on this point); they had, further, greatly improved the railroad communication of the place, drained Flinder's swamp, improved the soil of One Tree Hill and cured the vicar's wart. And they were going to see what could be done with the injured pier at

South Bridge. "The place," gasped Mr. Maydig, "won't be the same place to-morrow. How surprised and thankful every one will be!" And just at that moment the church clock struck three.

CHAPTER VIII

The Rotation of the Earth Stopped

"I SAY," said Mr. Fotheringay, "that's three o'clock! I must be getting back. I've got to be at business by eight. And besides, Mrs. Wimms——"

"We're only beginning," said Mr. Maydig, full of the sweetness of unlimited power. "We're only beginning. Think of all the good we're doing. When people wake——"

"But——" said Mr. Fotheringay.

Mr. Maydig gripped his arm suddenly. His eyes were bright and wild. "My dear chap," he said, "there's no hurry. Look"—he pointed to the moon at the zenith—"Joshua!"

"Joshua," said Mr. Maydig. "Why not? Stop it."

Mr. Fotheringay looked at the moon.

"That's a bit tall," he said, after a pause.

"Why not?" said Mr. Maydig. "Of course it doesn't stop. You stop the rotation of the earth, you know. Time stops. It isn't as if we were doing harm."

"H'm!" said Mr. Fotheringay. "Well," he sighed, "I'll try. Here!"

He buttoned up his jacket and addressed himself to the habitable globe, with as good an assumption of confidence as lay in his power. "Jest stop rotating, will you?" said Mr. Fotheringay.

Incontinently he was flying head over heels through the air at the rate of dozens of miles a minute. In spite of the innumerable circles he was describing per second he thought; for thought is wonderful—sometimes as sluggish as flowing pitch, sometimes as instantaneous as light. He thought in a second, and willed. "Let me come down safe and sound. Whatever else happens let me down safe and sound."

Mr. Fotheringay Starts a Terrific Storm

HE willed it only just in time, for his clothes, heated by his rapid flight through the air, were already beginning to singe. He came down with a forcible, but by no means injurious, bump in what appeared to be a mound of fresh-turned earth. A large mass of metal and masonry extraordinarily like the clock-tower in the middle of the market square, hit the earth near him, ricochetted over him, and flew into stonework, bricks and cement, like a bursting bomb. A hurtling cow hit one of the larger blocks and smashed like an egg. There was a crash that made all the most violent crashes of his past seem like the sound of falling dust, and this was followed by a descending series of lesser crashes. A vast wind roared throughout earth and heaven, so that he could scarcely lift his head to look. For a while he was too breathless and astonished even to see where he was or what had happened. And this movement was to feel his head and reassure himself that his streaming hair was still his own.

"Lord!" gasped Mr. Fotheringay, scarce able to speak for the gale, "I've had a squeak! What's gone wrong? Storms and thunder. And only a minute ago a fine night. It's Maydig set me on to this sort of thing. *What* a wind! If I go on fooling in this way I'm bound to have a thundering accident! . . .

"Where's Maydig?"

"What a confounded mess everything's in!"

He looked about him so far as his flapping jacket would permit. The appearance of things was really extremely strange. "The sky's all right anyhow," said Mr. Fotheringay. "And that's about all that is all right. And even there it looks like a terrific gale coming up. And even there's the moon overhead. Just as it was just now. Bright as midday. But as for the rest—— Where's the village? Where's—where's any thing? And what on earth set this wind a-blowing. *I* didn't order no wind."

CHAPTER IX.

A Strenuous Life

MR. FOTHERINGAY struggled to get to his feet in vain, and after one failure, remained on all fours, holding on. He surveyed the moonlit world to leeward, with the tails of his jacket streaming over his head. "There's something seriously wrong," said Mr. Fotheringay. "And what it is—goodness knows."

Far and wide nothing was visible in the white glare through the haze of dust that drove before a screaming gale but tumbled masses of earth and heaps of inchoate ruins, no trees, no houses, no familiar shapes, only a wilderness of disorder, vanishing at last into the darkness beneath the whirling columns and streamers, the lightnings and thunderings of a swiftly rising storm. Near him in the livid glare was something that might once have been an elm-tree, a smashed mass of splinters, shivered from boughs to base, and further a twisted mass of iron girders—only too evidently the viaduct—rose out of the piled confusion.

You see when Mr. Fotheringay had arrested the rotation of the solid globe, he had made no stipulation concerning the trifling movables upon its surface. And the earth spins so fast that the surface at its equator is travelling at rather more than a thousand miles an hour, and in these latitudes at more than half that pace.

So that the village, and Mr. Maydig, and Mr. Fotheringay, and everybody and everything had been jerked violently forward at about nine miles per second—that is to say much more violently than if they had been fired out of a cannon. And every human being, every living creature, every house, and every tree—all the world as we know it—had been so jerked and smashed and utterly destroyed. That was all.

Getting Rid of the Power of Performing Miracles

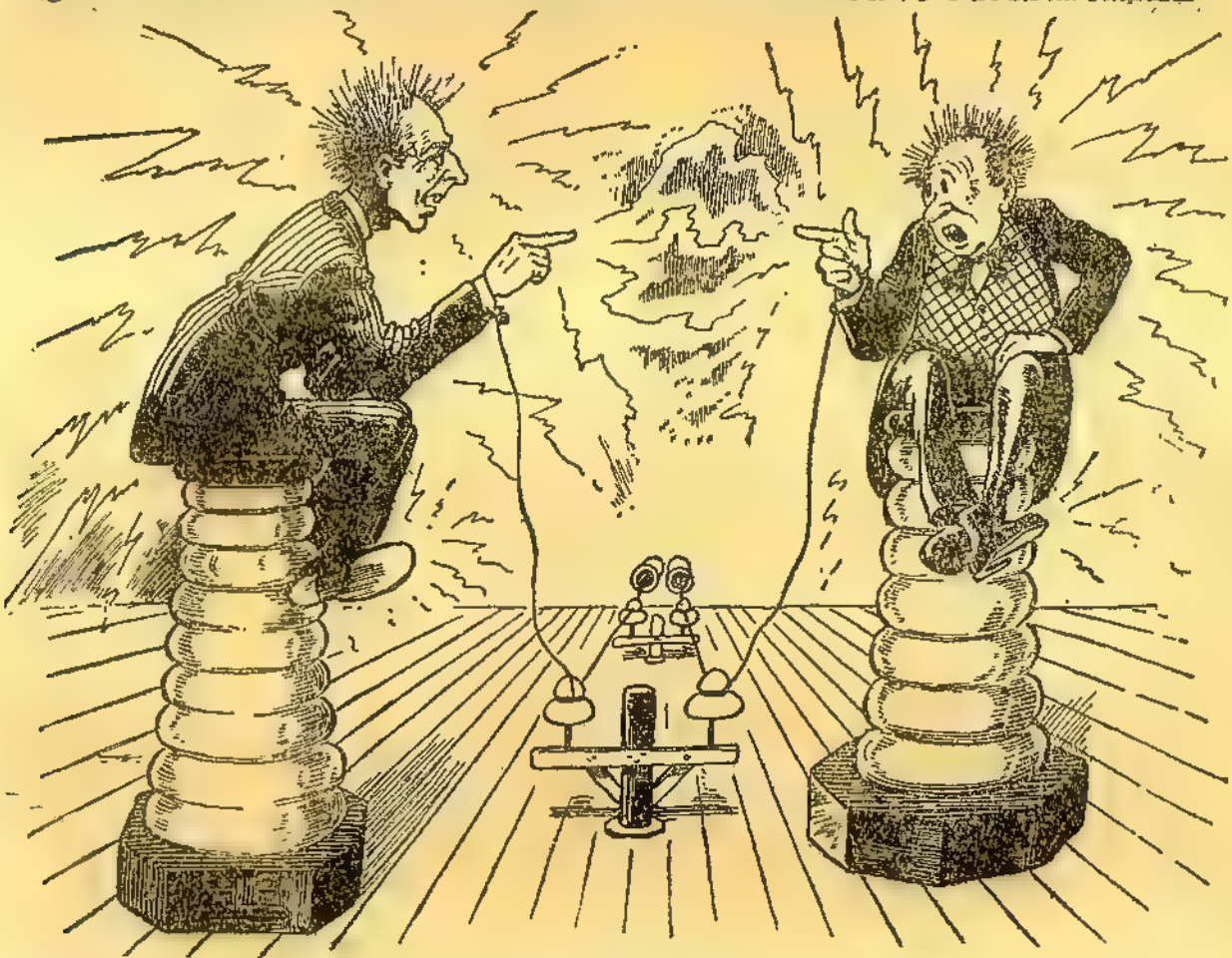
THESE things Mr. Fotheringay did not, of course, fully appreciate. But he perceived that his miracle had miscarried, and with that a great disgust of miracles came upon him. He was in darkness now, for the clouds had swept together and blotted out his momentary glimpse of the moon, and the air was full of fitful struggling tortured wraiths of hail. A great roaring of wind

(*Continued on page* 380)

The SCIENTIFIC ADVENTURES of MR. FOSDICK

By Jacque Morgan

The FELINE LIGHT and POWER COMPANY is ORGANIZED



Mr. Fosdick and Mr. Steele are now living on two insulated stools in the laboratory of Doolittle College. Their potential is dropping at the rate of ten volts a day.

JASON Q. FOSDICK closed the book that he had received by mail that morning, "Electricity at a Glance," and for a long time stared at the blank wall of the tinshop. Mr. Fosdick was thinking. Mr. Fosdick spent a great deal of his time in thought—probably most of his time. It was a common saying in Whiffleville that "When Mr. Fosdick gets through his thinking something is going to happen!" And in this the citizens were never disappointed, for invariably when Mr. Fosdick did get through his thinking something always did happen. Everybody liked the homely little man with the kindly face and the mild blue eyes, and in all the countryside none enjoyed a greater confidence and respect than Mr. Fosdick, for he was an inventor and genius. In all matters pertaining to science he was the village authority—even a greater authority than old Professor Snooks, the fiercely bewhiskered savant of Doolittle College up on the hill. Snooks had once called him "a doddering tinker," but this Mr. Fosdick attributed to jealousy as did all the inhabitants of Whiffleville, for the Professor was a pompous man and an unpopular one. No fair-minded person could doubt Mr. Fosdick's versatility in the arts and crafts, for upon the signboard that hung over the sidewalk, in front of the door of the tinshop, was lettered his many accomplishments:

JASON QUINCY FOSDICK
Tinsmith, Key-Fitter
and Scissors-Grinder

SCIENCE is not the dry thing that some people would like us to believe. Mr. Fosdick, in this captivating tale, demonstrates this most aptly. Did you ever stroke a cat in the dark, and watch the sparks leap between your hand and the cat's fur? Perhaps you did. But it remained for the illustrious Fosdick to commercialize this great inherent power. The results were most amazing, as the readers will soon find out.

Starting with a single cat, highly charged with electricity, see what a catastrophe—no pun intended—he brings upon himself. There is only one point we missed and that is "What electrode in the experiment was the CAThode?"

As an inventor Mr. Fosdick had achieved great success. True, his patent corkscrew had never drawn a cork, but it had made a fair hairpin, and he had disposed of it as such for a dignified sum. His patent pump refused flatly to perform the duty for which it had been designed, but it turned out to be an excellent churn and the favorite creature of his inventive brain, his patent curling iron, was in service in countless homes throughout the broad land as a nut-cracker.

A Wonderful Idea in the Field of Electric Power

AS Mr. Fosdick gazed abstractedly at the bare wall in front of him he beetled his brows after the manner of all geniuses when concentrating their minds upon some great and suddenly discovered phenomenon in the wonderful world of science. As stated before, Mr. Fosdick was thinking. And the thing that immersed him so deep in thought was a sentence that he had just read in the book. Many would have passed it by, but Mr. Fosdick's eyes had no sooner fallen on the lines of type—less than a score of words in all—than it immediately revealed to him a wide field of experimental research and one replete with thrilling possibilities. The momentous truth as told in the single, short and unobtrusive sentence was: "Static electricity may be generated by rubbing together such substances as resin and fur." Little did Mr. Fosdick at the time suspect that his stumbling upon this bit of elementary science was to result in focusing upon him the fierce limelight of international publicity and to make Whiffleville, for a brief forty-eight hours, the breathless topic of conversation throughout the civilized world.

Fully an hour passed. The noon whistle blew at Eben Stetzle's chop mill announcing to all Whiffleville the arrival of the dinner hour, and then Mr. Fosdick with the sigh of a tired man arose from his chair and started to close the shop. Had he followed out his intention this story would never have been written; but just as he was about to lock the front door there happened one of those strange and inexplicable things that so often change the destiny of men and nations—a large black cat walked across the threshold and sniffed rather contemptuously at Mr. Fosdick's shins!

Mr. Fosdick stared at the cat for a full minute and then he slowly put the key back in his pocket. "It's John L.!" he exclaimed. "By thunder, I'll try it!"

Pulling out a drawer of the workbench he, after fumbling about in a bushel or so of wheels, springs, screw-eyes and other odds and ends so dear to the hearts of all geniuses, eventually drew forth a large chunk of resin. And then picking up the unsuspecting John L.—so named after a highly successful pugilist on account of his extremely belligerent disposition—he placed the cat upon the bench and began to gently stroke him fore and aft with the resin. Slowly the hair upon the cat's back began to rise and in a few minutes John L. had apparently grown to twice his normal size. No astronomer discovering some hitherto unknown planet—no mother gazing with loving eyes, at her first born, ever experienced the rapturous tumult of feelings that suffused Mr. Fosdick as he watched the rapidly expanding John L. Quickly wrapping a piece of copper wire around a water pipe, Mr. Fosdick with eyes burning with the excitement of the experiment, slowly pushed the other end of the wire in the direction of John L.'s nose. Suddenly and without warning there was a loud cracking sound, a hot blue flame shot out from the cat's nose to the end of the wire, and John L., with a wild cry of rage, leaped some dozen feet in the air, and coming down, executed a neat right and left scratch upon the inventor's face; then with a single bound sprang through the door.

"By Jinks!" cried Fosdick. "She works—she works—she works!"

The Feline Light and Power Co. Organized

LESS than a week after Mr. Fosdick had made his experiment, all Whiffleville was thrown into a turmoil of excitement by the erection of a mysterious crib-like structure back of his tinshop. Only a chosen few knew the purpose of the strange building, and they, Eben Stetzle and five other friends and admirers of Mr. Fosdick, maintained a sphynx-like silence. In fact these men, having paid in ten dollars apiece to Mr. Fosdick, constituted the stockholders and the first board of directors of *The Feline Light and Power Co.*

The plan of organization was broad and comprehensive. *The Feline Light and Power Co.* was to be the parent company. Mr. Fosdick assured the directors that it should, by virtue of the ownership of basic patents which he was sure to obtain, control all the other companies that would spring up throughout the country, just as soon as the parent company had demonstrated the success of the new method of power generation.

Briefly, the new power plant consisted of a room hardly larger than a piano box elevated some three feet from the ground by insulating pillars of glazed brick. The floor and the walls of the room were coated with a four-inch lining of pure resin. Into this room a "plurality of cats," so the patent application read, "were to be liberated therein by dropping them through the trap door (A) to the resin-covered floor (B) upon which surface they will conduct themselves in the manner hereinafter described." The prospectus which Mr. Fosdick had already started to work upon told in simpler language that the friction of the cats against the surface of the resin would generate electricity, which would be conveyed to consumers within a radius of ten miles—and possibly to the street railway and light stations in the city, fifty miles distant. Eben Stetzle was the first to foresee that there would be an immediate market for cats and secretly he and his brother-in-law set about organizing a cat-breeding corporation under the laws of New Jersey to be known as "The General Feline Co., Limited."

Mr. Fosdick and His Units

IT took some pretty hard hustling upon the part of the directorate, but by the time the power house was completed twenty "units," as Mr. Fosdick called them, had been lured from as many back yards and for a day languished in the back room of the tinshop. In the evening, when night

had thrown its sable shade over Whiffleville and left the world in darkness to Mr. Fosdick and his cats, as Mr. Thomas Gray would doubtlessly have written, had he thought about it when composing his famous elegy—at any rate it was after dark when Mr. Fosdick stole out of the tinshop and one by one dropped his units through the trapdoor of the power house roof. Twenty trips he made and twenty units were installed. Then he listened intently—there was not a sound. With a heart sickened with the apprehension of failure, Mr. Fosdick made one more journey back to the tinshop and reappeared this time with John L.,—the "exciter," as he afterwards called him. Hardly had he dropped the hero of a thousand back-fence encounters into the dark and silent hole than things began to happen. Such a beldam of yowling and caterwauling Whiffleville had never heard—the plant was in operation.

The next morning when President Fosdick and the other officers and directors of *"The Feline Light and Power Company"* elbowed their way through the crowd of curious citizens that had gathered about the power house it was evident from the noise that came from the units inside that the charging process was still in progress. With some trepidation they mounted the ladder and looked down into the generating room. A strange and wonderful sight met their gaze. Twenty-one cats, each of them the size of a beer keg, were fighting each other in a grand battle royal. Their hair stood straight out and sparks played over their dully luminous bodies incessantly. The crackling noise of electrical discharges was continuous and the peculiar odor of ozone filled the air. The directors were awed.

"Men, we're worth millions and millions!" ejaculated Mr. Fosdick, gazing down rapturously at the expanded units.

Mr. Fosdick and His Friends Acquire a Dangerous Electric Charge

QUICKLY handing Vice-President Stetzle the voltmeter he had brought with him, Mr. Fosdick slipped down into the room. Picking up a unit he handed it up through the door for more thorough examination. But the unit did not propose being examined. With a yowl of rage it sank its teeth into the vice-president's arm and then with a loud and furious hiss leaped to the ground. Upon just what happened then none could ever agree. Stetzle afterwards described the explosion as being like that of the sudden eruption of a volcano, other spectators when brought to their senses were sure there had been an earthquake. But Mr. Fosdick with his calm, unemotional mind of a born investigator believed neither of these theories. He saw the cat as it touched the ground—saw the sudden flare of blue fire—heard the tremendous report—saw the unit disappear in a dense cloud of white smoke, and afterwards identified all that was left of it—small patch of fur about the size of a dime—probably an ear.

Hardly had the breeze wafted the dust and smoke aside when Mr. Fosdick became aware of a strange and startling phenomenon—his hair and whiskers stood out from his head and face like the quills of a porcupine. Mr. Stetzle was similarly affected.

"Don't touch the ground, Eben!" shouted Mr. Fosdick warningly. "If you do you will blow up like the cat did. We're charged with millions of volts!"

It was a terrible situation and the two men looked anxiously about for assistance, but the frightened spectators had fled to that haven of safety and gossip—the postoffice.

What Is to Be Done With the Charged Subject?

EXCITEMENT was at fever heat in the town. All sorts of rumors filled the air, and the telegraph was sending them to the remotest corners of the earth. Before noon extras were upon the streets of a score of cities telling in columns and columns of the terrible catastrophe and giving illustrations of it "Drawn by our special artist upon the ground."

All day long the two terrorized men cowered in the generating room. Outside at a safe distance a great crowd gathered. No one dared go near and it was generally believed that the unfortunate Fosdick and Stetzle must eventually starve to death. During the afternoon correspondents from the great city dailies poured in on every train and camera men clicked their instruments about "the death shed" in shoals. Towards evening it became known that the casualities were "one cat dead and two men electrified."

About supper time Prof. Snooks arrived, and it was owing to his suggestions to have food passed to them at the end of long glass poles that the men were saved from starvation.

In the generating room life was well nigh insufferable. The constant electrical discharges were irritating in the extreme and both men and units were in a vicious humor. It must be said, however, that President Fosdick made some attempt to bear the strain with the fortitude of a martyr to science; but the unhappy Stetzle displayed no such courage—he had a wife and family, he said, and he wanted to get out. Mr. Fosdick counseled the vice-president to have his family brought in, but to this suggestion Stetzle only replied with curses. In calmer moments Stetzle said that with two men and twenty cats in the bin there could be no room for Mrs. Stetzle and nine children.

The Frightened People Leave the Town

THE next afternoon Prof. Snooks from a safe distance shouted to them that they might, perhaps, regain their liberty by wearing rubber boots; but that they should try the idea on a cat first. In this suggestion Mr. Fosdick saw a ray of hope, and Mr. Stetzle was so cheered that he offered to dispose of his stock in the company of Mr. Fosdick for a mere song. The offer was refused. Mr. Fosdick said that he was not interested particularly in financial matters at that time. He wrote a note to Josh Little, the harnessmaker, ordering a pair of rubber boots made, cat-size. Then the inventor by eloquent gestures attracted the attention of the crowd and threw the note towards it at which there was a great scattering. A moment later he sank back in despair, for just as the epistle touched the ground there was a slight explosion, a vivid red flash, and it burned up before his very eyes. Well might he shudder, for now he realized the tre-

(*Continued on page* 383)

The MOON METAL

By Garrett P. Serviss

Author of "A Columbus of Space", "The Second Deluge", etc.

I perceived that

CHAPTER I.

South Polar Gold

HEN the news came of the discovery of gold at the south pole, nobody suspected that the beginning had been reached of a new era in the world's history. The newsboys cried "Extra!" as they had done a thousand times for murders, battles, fires, and Wall Street panics, but nobody was excited. In fact, the reports at first seemed so exaggerated and improbable that hardly anybody believed a word of them. Who could have been expected to credit a despatch, forwarded by cable from New Zealand, and signed by an unknown name, which contained such a statement as this:

"A seam of gold which can be cut with a knife has been found within ten miles of the south pole."

The discovery of the pole itself had been announced three years before, and several scientific parties were known to be exploring the remarkable continent that surrounds it. But while they had sent home many highly interesting reports, there had been nothing to suggest the possibility of such an amazing discovery as that which was now announced. Accordingly, most sensible people looked upon the New Zealand despatch as a hoax.

But within a week, and from a different source, flashed another despatch which more than confirmed the first. It declared that gold existed near the south pole in practically unlimited quantity. Some geologists said this accounted for the greater depth of the Antarctic Ocean. It had always been noticed that the southern hemisphere appeared to be a little overweighted. People now began to prick up their ears, and many letters of inquiry appeared in the newspapers concerning the wonderful tidings from the south. Some asked for information about the shortest route to the new gold-fields.

In a little while several additional reports came, some *via* New Zealand, others *via* South America, and all confirming in every respect what had been sent before. Then a New York newspaper sent a swift steamer to the Antarctic, and when this enterprising journal published a four-page cable describing the discoveries in detail, all doubt vanished and the rush began.

ONE of the finest pieces of scientifiction ever written is THE MOON METAL. This classic, by the well-known Professor Garrett P. Serviss, contains a tremendous amount of excellent science. While this story was written at the close of the 19th century no one in this latter day of transmission of radio over great distances, and the actual accomplishment of transmutation of gases and the like, can find fault or can question that such a scheme, as propounded by the author—that is, of extracting ore or metal from a distant body without intervening physical means—can some day be accomplished.

The story keeps up a tremendous interest, because you are not permitted to know, for quite a long stretch, just how The Moon Metal was extracted from the moon. The illustrious author has long enjoyed a reputation as a popularizer of natural science. Here we see him as a true scientific story teller.

Gold Loses its Value, and the Markets of the World Are Upset

SOME time I may undertake a description of the wild scenes that occurred when, at last, the inhabitants of the northern hemisphere were convinced the boundless stores of gold existed in the unclaimed and uninhabited wastes surrounding the south pole. But at present I have something more wonderful to relate.

Let me briefly depict the situation.

For many years silver had been absent from the coinage of the world. Its increasing abundance rendered it unsuitable for money, especially when contrasted with gold. The "silver craze," which had raged in the closing decade of the nineteenth century, was already a forgotten incident of financial history. The gold standard had become universal, and business all over the earth had adjusted itself to that condition. The wheels of industry ran smoothly, and there seemed to be no possibility of any disturbance or interruption. The common monetary system prevailing in every land fostered trade and facilitated the exchange of products. Travellers never had to bother their heads about the currency of money; any coin that passed in New York would pass for its face value in London, Paris, Berlin, Rome, Madrid, St. Petersburg, Constantinople, Cairo, Khartoum, Jerusalem, Peking, or Yeddo. It was indeed the "Golden Age," and the world had never been so free from financial storms.

Upon this peaceful scene the south polar gold discoveries burst like an unheralded tempest.

I happened to be in the company of a famous bank president when the confirmation of those discoveries suddenly filled the streets with yelling newsboys.

The Gold Standard Eliminated and Disaster Impending

"GET me one of those 'extras'!" he said, and an office-boy ran out to obey him. As he perused the sheet his face darkened.

"I'm afraid it's too true," he said, at length. "Yes, there seems to be no getting around it. Gold is going to be as plentiful as iron. If there were not such a flood of it, we might manage, but when they begin to make trousers buttons out of the same metal that is now locked and guarded in steel vaults, where will be our standard of worth? My dear fellow," he continued, impulsively laying his hand on my arm, "I would as willingly face the end of the world as this that's coming?"

"You think it so bad, then?" I asked. "But most people will not agree with you. They will regard it as very good news."

"How can it be good?" he burst out. "What have we got to take the place of gold? Can we go back to the age of barter? Can we substitute cattle-pens and wheat-bins for the strong boxes of the Treasury? Can commerce exist with no common measure of exchange?"

"It does indeed look serious," I assented.

"Serious! I tell you, it is the deluge!"

Thereat he clapped on his hat and hurried across the street to the office of another celebrated banker.

His premonitions of disaster turned out to be but too well grounded. The deposits of gold at the south pole were richer than the wildest reports had represented them. The shipments of the precious metal

to America and Europe soon became enormous—so enormous that the metal was no longer precious. The price of gold dropped like a falling stone, with accelerated velocity, and within a year every money centre in the world had been swept by a panic. Gold was more common than iron. Every government was compelled to demonetize it, for when once gold had fallen into contempt it was less valuable in the eyes of the public than stamped paper. For once the world had thoroughly learned the lesson that too much of a good thing is worse than none of it.

Gold is Brought Into Economic Use

THEN somebody found a new use for gold by inventing a process by which it could be hardened and tempered, assuming a wonderful toughness and elasticity without losing its non-corrosive property, and in this form it rapidly took the place of steel.

In the mean time every effort was made to bolster up credit. Endless were the attempts to find a substitute for gold. The chemists sought it in their laboratories and the mineralogists in the mountains and deserts. Platinum might have served, but it, too, had become a drug in the market through the discovery of immense deposits. Out of the twenty odd elements which had been rarer and more valuable than gold, such as uranium, gallium, etc., not one was found to answer the purpose. In short, it was evident that since both gold and silver had become too abundant to serve any longer for a money standard, the planet held no metal suitable to take their place.

The entire monetary system of the world must be readjusted, but in the readjustment it was certain to fall to pieces. In fact, it had already fallen to pieces; the only recourse was to paper money, but whether this was based upon agriculture or mining or manufacture, it gave varying standards, not only among the different nations, but in successive years in the same country. Exports and imports practically ceased. Credit was discredited, commerce perished, and the world, at a bound, seemed to have gone back, financially and industrially to the dark ages.

One final effort was made. A great financial congress was assembled at New York. Representatives of all the nations took part in it. The ablest financiers of Europe and America united the efforts of their genius and the results of their experience to solve the great problem. The various governments all solemnly stipulated to abide by the decision of the congress.

But, after spending months in hard but fruitless labor, that body was no nearer the end of its undertaking than when it first assembled. The entire world awaited its decision with bated breath, and yet the decision was not formed.

At this paralyzing crisis a most unexpected event suddenly opened the way.

CHAPTER II

The Magician of Science

AN attendant entered the room where the perplexed financiers were in session and presented a peculiar-looking card to the president, Mr. Boon. The president took the card in his hand and instantly fell into a brown study. So complete was his absorption that Herr Finster, the celebrated Berlin banker, who had been addressing the chair for the last two hours from the opposite end of the long table, got confused, entirely lost track of his verb, and suddenly dropped into his seat, very red in the face and wearing a most injured expression.

But President Boon paid no attention except to the singular card, which he continued to turn over and over, balancing it on his fingers and holding it now at arm's-length and then near his nose, with one eye squinted as if he were trying to look through a hole in the card.

At length this odd conduct of the presiding officer drew all eyes upon the card, and then everybody shared the interest of Mr. Boon. In shape and size the card was not extraordinary, but it was composed of metal. What metal? That question had immediately arisen in Mr. Boon's mind when the card came into his hand, and now it exercised the wits of all the others. Plainly it was not tin, brass, copper, bronze, silver, aluminum—although its lightness might have suggested that metal—nor even base gold.

The president, although a skilled metallurgist, confessed his inability to say what it was. So intent had he become in examining the curious bit of metal that he forgot it was a visitor's card of introduction, and did not even look for the name which it presumably bore.

The Reception of a Visitor's Wonderful Card

AS he held the card up to get a better light upon it a stray sunbeam from the window fell across the metal and instantly it bloomed with exquisite colors!

The president's chair being in the darker end of the room, the radiant card suffused the atmosphere about him with a faint rose tint, playing with surprising liveliness into alternate canary color and violet.

The effect upon the company of clear-headed financiers was extremely remarkable. The unknown metal appeared to exercise a kind of mesmeric influence, its soft hues blending together in a chromatic harmony which captivated the sense of vision as the ears are charmed by a perfectly rendered song. Gradually all gathered in an eager group around the president's chair.

"What can it be?" was repeated from lip to lip.

"Did you ever see anything like it?" asked Mr. Boon for the twentieth time.

None of them had even seen the like of it. A spell fell upon the assemblage. For five minutes no one spoke, while Mr. Boon continued to chase the flickering sunbeam with the wonderful card. Suddenly the silence was broken by a voice which had a touch of awe in it:

"It must be the metal!"

The speaker was an English financier, First Lord of the Treasury, Hon. James Hampton-Jones, K.C.B. Immediately everybody echoed his remark, and the strain being thus relieved, the spell dropped from them and several laughed loudly over their momentary aberration.

The Visitor Himself Enters

PRESIDENT Boon recollected himself, and, coloring slightly, placed the card flat on the table, in order more clearly to see the name. In plain red letters it stood forth with such surprising distinctness that Mr. Boon wondered why he had so long overlooked it.

"DR. MAX SYX"

"Tell the gentleman to come in," said the president, and thereupon the attendant threw open the door.

The owner of the mysterious card fixed every eye as he entered. He was several inches more than six feet in height. His complexion was very dark, his eyes were intensely black, bright, and deep-set, his eyebrows were bushy and up-curled at the ends, his sable hair was close-trimmed, and his ears were narrow, pointed at the top, and prominent. He wore black mustaches, covering only half the width of his lip and drawn into projecting needles on each side, while a spiked black beard adorned the middle of his chin.

He smiled as he stepped confidently forward, with a courtly bow, but it was a very disconcerting smile, because it more than half resembled a sneer. This uncommon person did not wait to be addressed.

"I have come to solve your problem," he said, facing President Boon, who had swung round on his pivoted chair.

"The metal!" exclaimed everybody in a breath, and with a unanimity and excitement which would have astonished them if they had been spectators instead of actors of the scene. The tall stranger bowed and smiled again:

"Just so," he said. "What do you think of it?"

"It is beautiful!"

Again the reply came from every mouth simultaneously, and again if the speakers could have been listeners they would have wondered not only at their earnestness, but at their words, for why should they instantly and unanimously pronounce that beautiful which they had not even seen? But every man knew he had seen it, for instinctively their minds reverted to the card and recognized in it the metal referred to. The mesmeric spell seemed once more to fall upon the assemblage, for the financiers noticed nothing remarkable in the next act of the stranger, which was to take a chair, uninvited, at the table, and the moment he sat down he became the presiding officer as naturally as if he had just been elected to that post. They all waited for him to speak, and when he opened his mouth they listened with breathless attention.

The Visitor's Story

HIS words were of the best English, but there was some peculiarity, which they had already noticed, either in his voice or his manner of enunciation, which struck all of the listeners as denoting a foreigner. But none of them could satisfactorily place him. Neither the Americans, the Englishmen, the Germans, the Frenchmen, the Russians, the Austrians, the Italians, the Spaniards, the Turks, the Japanese, nor the Chinese at the board could decide to what race or nationality the stranger belonged.

"This metal," he began, taking the card from Mr. Boon's hand, "I have discovered and named. I call it 'artemisium.' I can produce it, in the pure form, abundantly enough to replace gold, giving it the same relative value that gold possessed when it was the universal standard."

As Dr. Syx spoke he snapped the cord with his thumb-nail and it fluttered with quivering hues like a humming-bird hovering over a flower. He seemed to await a reply, and President Boon asked:

"What guarantee can you give that the supply would be adequate and continuous?"

"I will conduct a committee of this congress to my mine in the Rocky Mountains, where, in anticipation of the event, I have accumulated enough refined artemisium to provide every civilized land with an amount of coin equivalent to that which it formerly held in gold. I can there satisfy you of my ability to maintain the production."

"But how do we know that this metal of yours will answer the purpose?"

"Try it," was the laconic reply.

"There is another difficulty," pursued the president. "People will not accept a new metal in place of gold unless they are convinced that it possesses equal intrinsic value. They must first become familiar with it, and it must be abundant enough and desirable enough to be used sparingly in the arts, just as gold was."

"I have provided for all that," said the stranger, with one of his disconcerting smiles. "I assure you that there will be no trouble with the people. They will be only too eager to get and to use the metal. Let me show you."

He stepped to the door and immediately returned with two black attendants bearing a large tray filled with articles shaped from the same metal as that of which the card was composed. The financiers all jumped to their feet with exclamations of surprise and admiration, and gathered around the tray, whose dazzling contents lighted up the corner of the room where it had been placed as if the moon were shining there.

The New Metal Artemisium

THERE were elegantly formed vases, adorned with artistic figures, embossed and incised, and glowing with delicate colors which shimmered in tiny waves with the slightest motion of the tray. Cups, pins, finger-rings, earrings, watch-chains, combs, studs, lockets, medals, tableware, models of coins—in brief, almost every article in the fabrication of which precious metals have been employed was to be seen there in profusion, and all composed of the strange new metal which everybody on the spot declared was far more splendid than gold.

"Do you think it will answer?" asked Dr. Syx.

"We do," was the unanimous reply.

All then resumed their seats at the table, the tray with its magnificent array having been placed in the centre of the board. This display had a remarkable influence. Confidence awoke in the breasts of the financiers. The dark clouds that had oppressed them rolled off, and the prospect grew decidedly brighter.

"What terms do you demand?" at length asked Mr. Boon, cheerfully rubbing his hands.

"I must have military protection for my mine and reducing works," replied Dr. Syx. "Then I shall ask the return of one per cent. on the circulating medium, together with the privilege of disposing of a certain amount of the metal—to be limited by agreement—to the public for use in the arts. Of the proceeds of this sale I will pay ten per cent. to the government in consideration of its protection."

"But," exclaimed President Boon, "that will make you the richest man who ever lived!"

"Undoubtedly," was the reply.

"Why," added Mr. Boon, opening his eyes wider as the facts continued to dawn upon him, "you will become the financial dictator of the whole earth!"

"Undoubtedly," again responded Dr. Syx, unmoved. "That is what I purpose to become. My discovery entitles me to no less. But, remember, I place myself under government inspection and restriction. I should not be allowed to flood the market, even if I were disposed to do so. But my own interest would restrain me. It is to my advantage that artemisium, once adopted, shall remain stable in value."

A shadow of doubt suddenly crossed the president's face.

"Suppose your secret is discovered," he said. "Surely your mine will not remain the only one. If you, in so short a time, have been able to accumulate an immense quantity of the new metal, it must be extremely abundant. Others will discover it, and then where shall we be?"

While Mr. Boon uttered these words, those who were watching Dr. Syx (as the president was not) resembled persons whose startled eyes are fixed upon a wild beast preparing to spring. As Mr. Boon ceased speaking he turned towards the visitor, and instantly his lips fell apart and his face paled.

Dr. Syx, the Visitor, is Imperious

DR. SYX had drawn himself up to his full stature, and his features were distorted with that peculiar mocking smile which had now returned with a concentrated expression of mingled self-confidence and disdain.

"Will you have relief, or not?" he asked in a dry, hard voice. "What can you do? I alone possess the secret which can restore industry and commerce. If you reject my offer, do you think a second one will come?"

President Boon found voice to reply, stammeringly:

"I did not mean to suggest a rejection of the offer. I only wished to inquire if you thought it probable that there would be no repetition of what occurred after gold was found at the south pole?"

"The earth may be full of my metal," returned Dr. Syx, almost fiercely, "but so long as I alone possess the knowledge how to extract it, is it of any more worth than common dirt? But come," he added, after a pause and softening his manner, "I have other schemes. Will you, as representatives of the leading nations, undertake the introduction of artemisium as a substitute for gold, or will you not?"

"Can we not have time for deliberation?" asked President Boon.

"Yes, one hour. Within that time I shall return to learn your decision," replied Dr. Syx, rising and preparing to depart. "I leave these things," pointing to the tray, "in your keeping, and," significantly, "I trust your decision will be a wise one."

His curious smile again curved his lips and shot the ends of his mustache upward, and the influence of that smile remained in the room when he had closed the door behind him. The financiers gazed at one another for several minutes in silence, then they turned towards the coruscating metal that filled the tray.

CHAPTER III

The Teton Mountains

AWAY on the western border of Wyoming, in the all but inaccessible heart of the Rocky Mountains, three mighty brothers, "the Big Tetons," look perpendicularly into the blue eye of Jenny's Lake, lying at the bottom of the profound depression among the mountains called Jackson's Hole. Bracing against one another for support, these remarkable peaks lift their granite spires from 12,000 to nearly 14,000 feet into the blue dome that arches the crest of the continent. Their sides, and especially those of their chief, the Grand Teton, are streaked with glaciers, which shine like silver trappings when the morning sun comes up above the wilderness of mountains stretching away eastward from the hole.

When the first white men penetrated this wonderful region, and one of them bestowed his wife's name upon Jenny's Lake, they were intimidated by the Grand Teton. It made their flesh creep, accustomed though they were to rough scrambling among mountain gorges and on the brows of immense precipices, when they glanced up the face of the peak, where the cliffs fall, one below another, in a series of breathless descents, and imagined themselves clinging for dear life to those skyey battlements.

But when, in 1872, Messrs. Stevenson and Langford finally reached the top of the Grand Teton—the only successful members of a party of nine practised climbers who had started together from the bottom—they found there a little rectangular enclosure, made by piling up rocks, six or seven feet across and three feet in height, bearing evidences of great age, and indicating that the red Indians had, for some unknown purpose, resorted to the summit of this tremendous peak long before the white men invaded their mountains. Yet neither the Indians nor the whites ever really conquered the Teton, for above the highest point that they attained rises a granite buttress, whose smooth vertical sides seemed to them to defy everything but wings.

Winding across the sage-covered floor of Jackson's Hole runs the Shoshone, or Snake River, which takes its rise from Jackson's Lake at the northern end of the basin, and then, as if shrinking from the threatening brows of the Tetons, whose fall would block its progress, makes a détour of one hundred miles around the buttressed heights of the range before it finds a clear way across Idaho, and so on to the Columbia River and the Pacific Ocean.

A Visit to Syx's Works in the Teton Mountains

ON a July morning, about a month after the visit of Dr. Max Syx to the assembled financiers in New York, a party of twenty horsemen, following a mountain-trail, arrived on the eastern margin of Jackson's Hole, and pausing upon a commanding eminence, with exclamations of wonder, glanced across the great depression, where lay the shining coils of the Snake River, at the towering forms of the Tetons, whose ice-striped cliffs flashed lightnings in the sunshine. Even the impassive broncos that the party rode lifted their heads inquiringly, and snorted as if in equine astonishment at the magnificent spectacle.

One familiar with the place would have noticed something, which, to his mind, would have seemed more surprising than the pageantry of the mountains in their morning sun-bath. Curling above one of the wild gorges that cut the lower slopes of the Tetons was a thick black smoke, which, when lifted by a passing breeze, obscured the precipices halfway to the summit of the peak.

Had the Grand Teton become a volcano? Certainly no hunting or exploring party could make a smoke like that. But a word from the leader of the party of horsemen explained the mystery.

"There is my mill, and the mine is underneath it."

The speaker was Dr. Syx, and his companions were members of the financial congress. When he quitted their presence in New York, with the promise to return within an hour for their reply, he had no doubt in his own mind what that reply would be. He knew they would accept his proposition, and they did. No time was then lost in communicating with the various governments, and arrangements were quickly perfected whereby, in case the inspection of Dr. Syx's mine and its resources proved satisfactory, America and Europe should unite in adopting the new metal as the basis of their coinage. As soon as this stage in the negotiations was reached, it only remained to send a committee of financiers and metallurgists, in company with Dr. Syx, to the Rocky Mountains. They started under the doctor's guidance, completing the last stage of their journey on horseback.

"An inspection of the records at Washington," Dr. Syx continued, addressing the horsemen, "will show that I have filed a claim covering ten acres of ground around the mouth of my mine. This was done as soon as I had discovered the metal. The filing of the claim and the subsequent proceedings which perfected my ownership attracted no attention, because everybody was thinking of the south pole and its gold-fields."

Explanation From Dr. Syx

THE party gathered closer around Dr. Syx and listened to his words with silent attention, while their horses rubbed noses and jingled their gold-mounted trappings.

"As soon as I had legally protected myself," he continued, "I employed a force of men, transported my machinery and material across the mountains, erected my furnaces, and opened the mine. I was safe from intrusion, and even from idle curiosity, for the reason I have just mentioned. In fact, so exclusive was the attraction of the new gold-fields that I had difficulty in obtaining workmen, and finally I sent to Africa and engaged negroes, whom I placed in charge of trustworthy foremen. Accordingly, with half a dozen exceptions, you will see only black men at the mine."

"And with their aid you have mined enough metal to supply the mints of the world?" asked President Boon.

"Exactly so," was the reply. "But I no longer employ the large force which I needed at first."

"How much metal have you on hand? I am aware that you have already answered this question during our preliminary negotiations, but I ask it again for the benefit of some members of our party who were not present then."

"I shall show you to-day," said Dr. Syx, with his curious smile, "2500 tons of refined artemisium, stacked in rock-cut vaults under the Grand Teton."

"And you have dared to collect such inconceivable wealth in one place?"

"You forget that it is not wealth until the people have learned to value it, and the governments have put their stamp upon it."

"True, but how did you arrive at the proper moment?"

"Easily. I first ascertained that before the Antarctic discoveries the world contained altogether about 16,000 tons of gold, valued at $450,000 per ton, or $7,200,000,000 worth all told. Now my metal weighs, bulk for bulk, one-quarter as much as gold. It might be reckoned at the same intrinsic value per ton, but I have considered it preferable to take advantage of the smaller weight of the new metal, which permits us to make coins of the same size as the old ones, but only one-quarter as heavy, by giving to artemisium four times the value per ton that gold had. Thus only 4000 tons of the new metal are required to supply the place of the 16,000 tons of gold. The 2500 tons which I already have on hand are more than enough for coinage. The rest I can supply as fast as needed."

The party did not wait for further explanations. They were eager to see the wonderful mine and the store of treasure. Spurs were applied, and they galloped down the steep trail, forded the Snake River, and, skirting the shore of Jenny's Lake, soon found themselves gazing up the headlong slopes and dizzy parapets of the Grand Teton. Dr. Syx led them by a steep ascent to the mouth of the canyon, above one of whose walls stood his mill, and where the "Champ! Champ!" of a powerful engine saluted their ears.

The Wealth of the World

AN electric light shot its penetrating rays into a gallery cut through virgin rock and running straight towards the heart of the Teton. The centre of the gallery was occupied by a narrow railway, on which a few flat cars, propelled by electric power, passed to and fro. Black-skinned and silent workmen rode on the cars, both when they came laden with broken masses of rock from the farther end of the tunnel and when they returned empty.

Suddenly, to an eye situated a little way within the gallery, appeared at the entrance the dark face of Dr. Syx, wearing its most discomposing smile,

and a moment later the broader countenance of President Boon loomed in the electric glare beside the doctor's black frame-work of eyebrows and mustache. Behind them were grouped the other visiting financiers.

"This tunnel," said Dr. Syx, "leads to the mine head, where the ore-bearing rock is blasted."

As he spoke a hollow roar issued from the depths of the mountain, followed in a short time by a gust of foul air.

"You probably will not care to go in there," said the doctor, "and, in fact, it is very uncomfortable. But we shall follow the next car-load to the smelter, and you can witness the reduction of the ore."

Accordingly when another car came rumbling out of the tunnel, with its load of cracked rock, they all accompanied it into an adjoining apartment, where it was cast into a metallic shute, through which, they were informed, it reached the furnace.

"While it is melting," explained Dr. Syx, "certain elements, the nature of which I must beg to keep secret, are mixed with the ore, causing chemical action which results in the extraction of the metal. Now let me show you pure artemisum issuing from the furnace."

The Metal Shown Running from the Furnace

HE led the visitors through two apartments into a third, one side of which was walled by the front of a furnace. From this projected two or three small spouts, and iridescent streams of molten metal fell from the spouts into earthern receptacles from which the blazing liquid was led, like flowing iron, into a system of molds, where it was allowed to cool and harden.

The financiers looked on wondering, and their astonishment grew when they were conducted into the rock-cut store-rooms beneath, where they saw metallic ingots glowing like gigantic opals in the light which Dr. Syx turned on. They were piled in rows along the walls as high as a man could reach. A very brief inspection sufficed to convince the visitors that Dr. Syx was able to perform all that he promised. Although they had not penetrated the secret of his process of reducing the ore, yet they had seen the metal flowing from the furnace, and the piles of ingots proved conclusively that he had uttered no vain boast when he said he could give the world a new coinage.

But President Boon, being himself a metallurgist, desired to inspect the mysterious ore a little more closely. Possibly he was thinking that if another mine was destined to be discovered he might as well be the discoverer as anybody. Dr. Syx attempted no concealment, but his smile became more than usually scornful as he stopped a laden car and invited the visitors to help themselves.

"I think," he said, "that I have struck the only lode of this ore in the Teton, or possibly in this part of the world, but I don't know for certain. There may be plenty of it only waiting to be found. That, however, doesn't trouble me. The great point is that nobody except myself knows how to extract the metal."

Mr Boon closely examined the chunk of rock which he had taken from the car. Then he pulled a lens from his pocket, with a deprecatory glance at Dr. Syx.

"Oh, that's all right," said the latter, with a laugh, the first that these gentlemen had ever heard from his lips, and it almost made them shudder; "put it to every test, examine it with the microscope, with fire, with electricity, with the spectroscope—in every way you can think of! I assure you it is worth your while!"

Again Dr. Syx uttered his freezing laugh, passing into the familiar smile, which had now become an undisguised mock.

"Upon my word," said Mr. Boon, taking his eye from the lens, "I see no sign of any metal here!"

"Look at the green specks!" cried the doctor, snatching the specimen from the president's hand. "That's it! That's artemisium! But it's of no use unless you can get it out and purify it, which is my secret!"

Dr. Syx Laughs

FOR the third time Dr. Syx laughed, and his merriment affected the visitors so disagreeably that they showed impatience to be gone. Immediately he changed his manner.

"Come into my office," he said, with a return to the graciousness which had characterized him ever since the party started from New York.

When they were all seated, and the doctor had handed round a box of cigars, he resumed the conversation in his most amiable manner.

"You see, gentlemen," he said, turning a piece of ore in his fingers, "artemisium is like aluminum. It can only be obtained in the metallic form by a special process. While these greenish particles, which you may perhaps mistake for chrysolite, or some similar silicate, really contain the precious metal, they are not entirely composed of it. The process by which I separate out the metallic element while the ore is passing through the furnace is, in truth, quite simple, and its very simplicity guards my secret. Make your minds easy as to over-production. A man is as likely to jump over the moon as to find me out."

"But," he continued, again changing his manner, "we have had business enough for one day; now for a little recreation."

While speaking the doctor pressed a button on his desk, and the room, which was illuminated by electric lamps—for there were no windows in the building—suddenly became dark, except part of one wall, where a broad area of light appeared.

Dr. Syx's voice had become very soothing when next he spoke:

"I am fond of amusing myself with a peculiar form of the magic-lantern, which I invented some years ago, and which I have never exhibited except for the entertainment of my friends. The pictures will appear upon the wall, the apparatus being concealed."

He had hardly ceased speaking when the illuminated space seemed to melt away, leaving a great opening, through which the spectators looked as if into another world on the opposite side of the wall. For a minute or two they could not clearly discern what was presented; then, gradually, the flitting scenes and figures became more distinct until the lifelikeness of the spectacle absorbed their whole attention.

Before them passed, in panoramic review, a

sunny land, filled with brilliant-hued vegetation, and dotted with villages and cities which were bright with light-colored buildings. People appeared moving through the scenes, as in a cinemetograph exhibition, but with infinitely more semblance of reality. In fact, the pictures, blending one into another, seemed to be life itself. Yet it was not an earth-like scene. The colors of the passing landscape were such as no man in the room had ever beheld; and the people, tall, round-limbed, with florid complexion, golden hair, and brilliant eyes and lips, were indescribably beautiful and graceful in all their movements.

Dr. Syx's Movies

FROM the land the view passed out to sea, and bright blue waves, edged with creaming foam, ran swiftly under the spectator's eyes, and occasionally, driven before light winds, appeared fleets of daintily shaped vessels, which reminded the beholder, by their flashing wings, of the feigned "ship of pearl."

After the fairy ships and breezy sea views came a long, curving line of coast, brilliant with coral sands, and indented by frequent bays, along whose enchanting shores lay pleasant towns, the landscapes behind them splendid with groves, meadows, and streams.

Presently the shifting photographic tape, or whatever the mechanism may have been, appeared to have settled upon a chosen scene, and there it rested. A broad champaign reached away to distant sapphire mountains, while the foreground was occupied by a magnificent house, resembling a large country villa, fronted with a garden, shaded by bowers and festoons of huge, brilliant flowers. Birds of radiant plumage flitted among the trees and blossoms, and then appeared a company of gayly attired people, including many young girls, who joined hands and danced in a ring, apparently with shouts of laughter, while a group of musicians standing near thrummed and blew upon curiously shaped instruments.

End of the Movie Show

SUDDENLY the shadow of a dense cloud flitted across the scene; whereupon the brilliant birds flew away with screams of terror which almost seemed to reach the ears of the onlookers through the wall. An expression of horror came over the faces of the people. The children broke from their merry circle and ran for protection to their elders. The utmost confusing and whelming terror were evidenced for a moment—then the ground split asunder, and the house and the garden, with all their living occupants were swallowed by an awful chasm which opened just where they had stood. The great rent ran in a widening line across the sunlit landscape until it reached the horizon, when the distant mountains crumbled, clouds poured in from all sides at once, and billows of flame burst through them as they veiled the scene.

But in another instant the commotion was over, and the world whose curious spectacles had been enacted as if on the other side of a window, seemed to retreat swiftly into space, until at last, emerging from a fleecy cloud, it reappeared in the form of the full moon hanging in the sky, but larger than is its wont, with its dry ocean-beds, its keen-spired peaks, its ragged mountain ranges, its gaping chasms, its immense crater rings, and Tycho, the chief of them all, shooting raylike streaks across the scarred face of the abandoned lunar globe.

The show was ended, and Dr. Syx, turning on only a partial illumination in the room, rose slowly to his feet, his tall form appearing strangely magnified in the gloom, and invited his bewildered guests to accompany him to his house, outside the mill, where he said dinner awaited them. As they emerged into daylight they acted like persons just aroused from an opiate dream.

CHAPTER IV

Wonders of the New Metal.

WITHIN a twelvemonth after the visit of President Boon and his fellow-financiers to the mine in the Grand Teton a railway had been constructed from Jackson's Hole, connecting with one of the Pacific lines, and the distribution of the new metal was begun. All of Dr. Syx's terms had been accepted. United States troops occupied a permanent encampment on the upper waters of the Snake River, to afford protection, and as the consignments of precious ingots were hurried east and west on guarded trains, the mints all over the world resumed their activity. Once more a common monetary standard prevailed, and commerce revived as if touched by a magic wand.

Artemisium quickly won its way in popular favor. Its matchless beauty alone was enough. Not only was it gladly accepted in the form of money, but its success was instantaneous in the arts. Dr. Syx and the inspectors representing the various nations found it difficult to limit the output to the agreed-upon amount. The demand was incessant.

Goldsmiths and jewellers continually discovered new excellencies in the wonderful metal. Its properties of translucence and refraction enabled skilful artists to perform marvels. By suitable management a chain of artemisium could be made to resemble a string of vari-colored gems, each separate link having a tint of its own, while, as the wearer moved, delicate complementary colors chased one another, in rapid undulation, from end to end.

A fresh charm was added by the new metal to the personal adornment of women, and an enhanced splendor to the pageants of society. Gold in its palmiest days had never enjoyed such a vogue. A crowded reception-room or a dinner-party where artemisium abounded possessed an indescribable atmosphere of luxury and richness, refined in quality, yet captivating to every sense. Imaginative persons went so far as to aver that the sight and presence of the metal exercised a strangely soothing and dreamy power over the mind, like the influence of moonlight streaming through the tree-tops on a still, balmly night.

The public curiosity in regard to the origin of artemisium was boundless. The various nations published official bulletins in which the general facts—omitting, of course, such incidents as the singular exhibition seen by the visiting financiers on the wall of Dr. Syx's office—were detailed to gratify the universal desire for information.

President Boon not only submitted the specimens

of ore-bearing rock which he had brought from the mine to careful analysis, but also appealed to several of the greatest living chemists and mineralogists to aid him; but they were all equally mystified. The green substance contained in the ore, although differing slightly from ordinary chrysolite, answered all the known tests of that mineral. It was remembered, however, that Dr. Syx had said that they would be likely to mistake the substance for chrysolite, and the result of their experiments justified his prediction. Evidently the doctor had gone a stones' cast beyond the chemistry of the day, and, just as evidently, he did not mean to reveal his discovery for the benefit of science, nor for the benefit of any pockets except his own.

The Extraction of the Metal is an Unsolvable Mystery

NOTWITHSTANDING the failure of the chemists to extract anything from Dr. Syx's ore, the public at large never doubted that the secret would be discovered in good time, and thousands of prospectors flocked to the Teton Mountains in search of the ore. And without much difficulty they found it. Evidently the doctor had been mistaken in thinking that his mine might be the only one. The new miners hurried specimens of the green-speckled rock to the chemical laboratories for experimentation, and meanwhile began to lay up stores of the ore in anticipation of the time when the proper way to extract the metal should be discovered.

But, alas! that time did not come. The fresh ore proved to be as refractory as that which had been obtained from Dr. Syx. But in the midst of the universal disappointment there came a new sensation.

One morning the newspapers glared with a despatch from Grand Teton station announcing that the metal itself had been discovered by prospectors on the eastern slope of the main peak.

"It outcrops in many places," ran the despatch, "and many small nuggets have been picked out of crevices in the rocks."

The excitement produced by this news was even greater than when gold was discovered at the south pole. Again a mad rush was made for the Tetons. The heights around Jackson's Hole and the shores of Jackson's and Jenny's lakes were quickly dotted with camps, and the military force had to be doubled to keep off the curious, and occasionally menacing, crowds which gathered in the vicinity and seemed bent on unearthing the great secret locked behind the windowless walls of the mill, where the column of black smoke and the roar of the engine served as reminders of the incredible wealth which the sole possessor of that secret was rolling up.

This time no mistake had been made. It was a fact that the metal, in virgin purity, had been discovered scattered in various places on the ledges of the Grand Teton. In a little while thousands had obtained specimens with their own hands. The quantity was distressingly small, considering the number and the eagerness of the seekers, but that it was genuine artemisium not even Dr. Syx could have denied. He, however, made no attempt to deny it.

"Yes," he said, when questioned, "I find that I have been deceived. At first I thought the metal existed only in the form of the green ore, but of late I have come upon veins of pure artemisium in my mine. I am glad for your sakes, but sorry for my own. Still, it may turn out that there is no great amount of free artemisium after all."

The Mountain is Covered with Prospectors

WHILE the doctor talked in this manner close observers detected a lurking sneer which his acquaintances had not noticed since artemisium was first adopted as the money basis of the world.

The crowd that swarmed upon the mountain quickly exhausted all of the visible supply of the metal. Sometimes they found it in a thin stratum at the bottom of crevices, where it could be detached in opalescent plates and leaves of the thickness of paper. These superficial deposits evidently might have been formed from water holding the metal in solution. Occasionally, deep cracks contained nuggets and wiry masses which looked as if they had run together when molten.

The most promising spots were soon staked out in miners' claims, machinery was procured, stock companies were formed, and borings were begun. The enthusiasm arising from the earlier finds and the flattering surface indications caused everybody to work with feverish haste and energy, and within two months one hundred tunnels were piercing the mountain.

For a long time nobody was willing to admit the truth which gradually forced itself upon the attention of the miners. The deeper they went the scarcer became the indications of artemisium! In fact, such deposits as were found were confined to fissures near the surface. But Dr. Syx continued to report a surprising increase in the amount of free metal in his mine, and this encouraged all who had not exhausted their capital to push on their tunnels in the hope of finally striking a vein. At length, however, the smaller operators gave up in despair, until only one heavily capitalized company remained at work.

CHAPTER V

A Strange Discovery

"IT is my belief that Dr. Max Syx is a deceiver." The person who uttered this opinion was a young engineer, Andrew Hall, who had charge of the operations of one of the mining companies which were driving tunnels into the Grand Teton.

"What do you mean by that?" asked President Boon, who was the principal backer of the enterprise.

"I mean," replied Hall, "that there is no free metal in this mountain, and Dr. Syx knows there is none."

"But he is getting it himself from his mine," retorted President Boon.

"So he says, but who has seen it? No one is admitted into the Syx mine, his foremen are forbidden to talk, and his workmen are specially imported negroes who do not understand the English language."

"But," persisted Mr. Boon, "how, then, do you account for the nuggets scattered over the moun-

tain? And, besides what object could Dr. Syx have in pretending that there is free metal to be had for the digging?"

"He may have salted the mountain, for all I know," said Hall. "As for his object, I confess I am entirely in the dark, but, for all that, I am convinced that we shall find no more metal if we dig ten miles for it."

"Nonsense," said the president; "if we keep on we shall strike it. Did not Dr. Syx himself admit that he found no free artemisium until his tunnel had reached the core of the peak? We must go as deep as he has gone before we give up."

"I fear the depths he attains are beyond most people's reach," was Hall's answer, while a thoughtful look crossed his clear-cut brow, "but since you desire it, of course the work shall go on. I should like, however, to change the direction of the tunnel."

"Certainly," replied Mr. Boon; "bore in whatever direction you think proper, only don't despair."

About a month after this conversation Andrew Hall, with whom a community of tastes in many things had made me intimately acquainted, asked me one morning to accompany him into his tunnel.

"I want to have a trusty friend at my elbow," he said, "for, unless I am a dreamer, something remarkable will happen within the next hour, and two witnesses are better than one."

A Friendly Investigator—Andrew Hall Proposes to Solve the Mystery

I KNEW Hall was not the person to make such a remark carelessly, and my curiosity was intensely excited, but, knowing his peculiarities, I did not press him for an explanation. When we arrived at the head of the tunnel I was surprised at finding no workmen there.

"I stopped blasting some time ago," said Hall, in explanation, "for a reason which, I hope, will become evident to you very soon. Lately I have been boring very slowly, and yesterday I paid off the men and dismissed them with the announcement, which I am confident, President Boon will sanction after he hears by reports of this morning's work, that the tunnel is abandoned. You see, I am now using a drill which I can manage without assistance. I believe the work is almost completed, and I want you to witness the end of it."

He then carefully applied the drill, which noiselessly screwed its nose into the rock. When it had sunk to a depth of a few inches he withdrew it, and, taking a hand-drill capable of making a hole not more than an eighth of an inch in diameter, cautiously began boring in the centre of the larger cavity. He had made hardly a hundred turns of the handle when the drill shot through the rock! A gratified smile illuminated his features, and he said in a suppressed voice:

"Don't be alarmed; I'm going to put out the light."

Instantly we were in complete darkness, but being close at Hall's side I could detect his movements. He pulled out the drill, and for half a minute remained motionless as if listening. There was no sound.

"I must enlarge the opening," he whispered, and immediately the faint grating of a sharp tool cutting through the rock informed me of his progress.

"There," at last he said, "I think that will do; now for a look."

I could tell that he had placed his eye at the hole and was gazing with breathless attention. Presently he pulled my sleeve.

"Put your eye here," he whispered, pushing me into the proper position for looking through the hole.

Looking Through a Peep-Hole

AT first I could discern nothing except a smoky blue glow. But soon my vision cleared a little, and then I perceived that I was gazing into a narrow tunnel which met ours directly end to end. Glancing along the axis of this gallery I saw, some two hundred yards away, a faint light which evidently indicated the mouth of the tunnel.

At the end where we had met it the mysterious tunnel was considerably widened at one side, as if the excavators had started to change direction and then abandoned the work, and in this elbow I could just see the outlines of two or three flat cars loaded with broken stone, while a heap of the same material lay near them. Through the centre of the tunnel ran a railway track.

"Do you know what you are looking at?" asked Hall in my ear.

"I begin to suspect," I replied, "that you have accidentally run into Dr. Syx's mine."

"If Dr. Syx had been on his guard this accident wouldn't have happened," replied Hall, with an almost inaudible chuckle.

"I heard you remark a month ago," I said, "that you were changing the direction of your tunnel. Has this been the aims of your labors ever since?"

Discoveries Under Hall's Auspices

"YOU have hit it," he replied. "Long ago I became convinced that my company was throwing away its money in a vain attempt to strike a lode of pure artemisium. But President Boon has great faith in Dr. Syx, and would not give up the work. So I adopted what I regarded as the only practical method of proving the truth of my opinion and saving the company's funds. An electric indicater, of my invention, enabled me to locate the Syx tunnel when I got near it, and I have met it end on, and opened this peep-hole in order to observe the doctor's operations. I feel that such spying is entirely justified in the circumstances. Although I cannot yet explain just how or why I feel sure that Dr. Syx was the cause of the sudden discovery of the surface nuggets, and that he has encouraged the miners for his own ends, until he has brought ruin to thousands who have spent their last cent in driving useless tunnels into this mountain. It is a righteous thing to expose him."

"But," I interposed, "I do not see that you have exposed anything yet except the interior of a tunnel."

"You will see more clearly after a while," was the reply.

Hall now placed his eye again at the aperture, and was unable entirely to repress the exclamation

that rose to his lips. He remained staring through the hole for several minutes without uttering a word. Presently I noticed that the lenses of his eye were illuminated by a ray of light coming through the hole, but he did not stir.

After a long inspection he suddenly applied his ear to the hole and listened intently for at least five minutes. Not a sound was audible to me, but, by an occasional pressure of the hand, Hall signified that some important disclosure was reaching his sense of hearing. At length he removed his ear.

"Pardon me," he whispered, "for keeping you so long in waiting, but what I have just seen and overheard was of a nature to admit of no interruption. He is still talking, and by pressing your ear against the hole you may be able to catch what he says."

"Who is 'he'?"

"Look for yourself."

I placed my eye at the aperture, and almost recoiled with the violence of my surprise. The tunnel before me was brilliantly illuminated, and within three feet of the wall of rock behind which we crouched stood Dr. Syx, his dark profile looking almost satanic in the sharp contrast of light and shadow. He was talking to one of his foremen, and the two were the only visible occupants of the tunnel. Putting my ear to the little opening, I heard his words distinctly:

—"end of their rope. Well, they've spent a pretty lot of money for their experience, and I rather think we shall not be troubled again by artemisium-seekers for some time to come."

Spying On Dr. Syx

THE doctor's voice ceased, and instantly I clapped my eye to the hole. He had changed his position so that his black eyes now looked straight at the aperture. My heart was in my mouth, for at first I believed from his expression that he had detected the gleam of my eyeball. But if so, he probably mistook it for a bit of mica in the rock, and paid no further attention. Then his lips moved, and I put my ear again to the hole. He seemed to be replying to a question that the foreman had asked.

"If they do," he said, "they will never guess the real secret."

Thereupon he turned on his heel, kicked a bit of rock off the track, and strode away towards the entrance. The foreman paused long enough to turn out the electric lamp, and then followed the doctor.

"Well," asked Hall, "what have you heard?"

I told him everything.

"It fully corroborates the evidence of my own eyes and ears," he remarked, "and we may count ourselves extremely lucky. It is not likely that Dr. Syx will be heard a second time proclaiming his deception with his own lips. It is plain that he was led to talk as he did to the foreman on account of the latter's having informed him of the sudden discharge of my men this morning. Their presence within ear-shot of our hiding-place during their conversation was, of course, pure accident, and so you can see how kind fortune has been to us. I expected to have to watch and listen and form deductions for a week, at least, before getting the information which five lucky minutes have placed in our hands."

While he was speaking my companion busied himself in carefully plugging up the hole in the rock. When it was closed to his satisfaction he turned on the light in our tunnel.

"Did you observe," he asked, "that there was a second tunnel?"

"What do you say?"

"When the light was on in there I saw the mouth of a small tunnel entering the main one behind the cars on the right. Did you notice it?"

"Oh yes," I replied. "I did observe some kind of a dark hole there, but I paid no attention to it because I was so absorbed in the doctor."

"Well," rejoined Hall, smiling, "it was worth considerably more than a glance. As a subject of thought I find it even more absorbing than Dr. Syx. Did you see the track in it?"

"No," I had to acknowledge, "I did not notice that. But," I continued, a little piqued by his manner, "being a branch of the main tunnel, I don't see anything remarkable in its having a track also."

"It was rather dim in that hole," said Hall, still smiling in a somewhat provoking way, "but the railroad track was there plain enough. And, whether you think it remarkable or not, I should like to lay you a wager that that track leads to a secret worth a dozen of the one we have just overheard."

"My good friend," I retorted, still smarting a little, "I shall not presume to match my stupidity against your perspicacity. I haven't cat's eyes in the dark."

Hall immediately broke out laughing, and, slapping me good-naturedly on the shoulder, exclaimed:

"Come, come now! If you go to kicking back at a fellow like that, I shall be sorry I ever undertook this adventure."

CHAPTER VI

A Mystery Indeed

WHEN President Boon had heard our story he promptly approved Hall's dismissal of the men. He expressed great surprise that Dr. Syx should have resorted to a deception which had been so disastrous to innocent people, and at first he talked of legal proceedings. But, after thinking the matter over, he concluded that Syx was too powerful to be attacked with success, especially when the only evidence against him was that he had claimed to find artemisium in his mine at a time when, as everybody knew, artemisium actually was found outside the mine. There was no apparent motive for the deception, and no proof of malicious intent. In short, Mr. Boon decided that the best thing for him and his stockholders to do was to keep silent about their losses and await events. And, at Hall's suggestion, he also determined to say nothing to anybody about the discovery he had made.

"It could do no good," said Hall, in making the suggestion, "and it might spoil a plan I have in mind."

"What plan?" asked the president.

"I prefer not to tell just yet," was the reply.

I observed that, in our interview with Mr. Boon, Hall made no reference to the side tunnel to which he had appeared to attach so much importance, and I concluded that he now regarded it as lacking significance. In this I was mistaken.

A few days afterwards I received an invitation from Hall to accompany him once more into the abandoned tunnel.

"I have found out what that side-track means," he said, "and it has plunged me into another mystery so dark and profound that I cannot see my way through it. I must beg you to say no word to any one concerning the thing I am about to show you."

I gave the required promise, and we entered the tunnel, which nobody had visited since our former adventure. Having extinguished our lamp, my companion opened the peep-hole, and a thin ray of light streamed through from the tunnel on the opposite side of the wall. He applied his eye to the hole.

"Yes," he said, quickly stepping back and pushing me into his place, "they are still at it. Look, and tell me what you see."

"I see," I replied, after placing my eye at the aperture, "a gang of men unloading a car which has just come out of the side tunnel, and putting its contents upon another car standing on the track of the main tunnel."

"Yes, and what are they handling?"

"Why, ore, of course."

"And do you see nothing significant in that?"

"To be sure!" I exclaimed. "Why, that ore—"

"Hush! hush!" admonished Hall, putting his hand over my mouth; "don't talk so loud. Now go on, in a whisper."

"The ore," I resumed, "may have come back from the furnace-room, because the side tunnel turns off so as to run parallel with the other."

"It not only may have come back, it actually has come back," said Hall.

"How can you be sure?"

"Because I have been over the track, and know that it leads to a secret apartment directly under the furnace in which Dr. Syx pretends to melt the ore!"

For a minute after hearing this avowal I was speechless.

"Are you serious?" I asked at length.

Dr. Syx is a Systematic Deceiver

"PERFECTLY serious. Run your finger along the rock here. Do you perceive a seam? Two days ago, after seeing what you have just witnessed in the Syx tunnel, I carefully cut out a section of the wall, making an aperture large enough to crawl through, and, when I knew the workmen were asleep, I crept in there and examined both tunnels from end to end. But in solving one mystery I have run myself into another infinitely more perplexing."

"How is that?"

"Why does Dr. Syx take such elaborate pains to deceive his visitors, and also the government officers? It is now plain that he conducts no mining operations whatever. This mine of his is a gigantic blind. Whenever inspectors or scientific curiosity seekers visit his mill his mute workmen assume the air of being very busy, the cars laden with his so-called 'ore' rumble out of the tunnel, and their contents are ostentatiously poured into the furnace, or appear to be poured into it, really dropping into a receptacle beneath, to be carried back into the mine again. And then the doctor leads his gulled visitors around to the other side of the furnace and shows them the molten metal coming out in streams, Now what does it all mean? That's what I'd like to find out. What's his game? For, mark you, if he doesn't get artemisium from this pretended ore, he gets it from some other source, and right on this spot, too. There is no doubt about that. The whole world is supplied by Syx's furnace, and Syx feeds his furnace with something that comes from his ten acres of Grand Teton rock. What is that something? How does he get it, and where does he hide it? These are the things I should like to find out."

"Well," I replied, "I fear I can't help you."

"But the difference between you and me," he retorted, "is that you can go to sleep over it, while I shall never get another good night's rest so long as this black mystery remains unsolved."

"What will you do?"

"I don't know exactly what. But I've got a dim idea which may take shape after a while."

Hall was silent for some time; then he suddenly asked:

"Did you ever hear of that queer magic-lantern show with which Dr. Syx entertained Mr. Boon and the members of the financial commission in the early days of the artemisium business?"

"Yes, I've heard the story, but I don't think it was ever made public. The newspapers never got hold of it."

"No, I believe not. Odd thing, wasn't it?"

"Why, yes, very odd, but just like the doctor's eccentric ways, though. He's always doing something to astonish somebody, without any apparent earthly reason. But what put you in mind of that?"

"Free artemisium put me in mind of it," replied Hall, quizzically.

"I don't see the connection."

"I'm not sure that I do either, but when you are dealing with Dr. Syx nothing is too improbable to be thought of."

Andrew Hall is Meditating

HALL thereupon fell to musing again, while we returned to the entrance of the tunnel. After he had made everything secure, and slipped the key into his pocket, my companion remarked:

"Don't you think it would be best to keep this latest discovery to ourselves?"

"Certainly."

"Because," he continued, "nobody would be benefitted just now by knowing what we know, and to expose the worthlessness of the 'ore' might cause a panic. The public is a queer animal, and never gets scared at just the thing you expect will alarm it, but always at something else."

We had shaken hands and were separating when Hall stopped me.

"Do you believe in alchemy?" he asked.

"That's an odd question from you," I replied. "I thought alchemy was exploded long ago."

"Well," he said, slowly, "I suppose it has been exploded, but then, you know, an explosion may sometimes be a kind of instantaneous education, breaking up old things but revealing new ones."

CHAPTER VII

The Age of Artemisium

IMPORTANT business called me East soon after the meeting with Hall described in the foregoing chapter, and before I again saw the Grand Teton very stirring events had taken place.

As the reader is aware, Dr. Syx's agreement with the various governments limited the output of his mine. An international commission, continually in session in New York, adjusted the differences arising among the nations concerning financial affairs, and allotted to each the proper amount of artemisium for coinage. Of course, this amount varied from time to time, but a fair average could easily be maintained. The gradual increase of wealth, in houses, machinery, manufactured and artistic products called for a corresponding increase in the circulating medium; but this, too, was easily provided for. An equally painstaking supervision was exercised over the amount of the precious metal which Dr. Syx was permitted to supply to the markets for use in the arts. On this side, also, the demand gradually increased; but the wonderful Teton mine seemed equal to all calls upon its resources.

After the failure of the mining operations there was a moderate revival of the efforts to reduce the Teton ore, but no success cheered the experimenters. Prospectors also wandered all over the earth looking for pure artemisium, but in vain. The general public, knowing nothing of what Hall had discovered, and still believing Syx's story that he also had found pure artemisium in his mine, accounted for the failure of the tunnelling operations on the supposition that the metal, in a free state, was excessively rare, and that Dr. Syx had had the luck to strike the only vein of it that the Grand Teton contained. As if to give countenance to this opinion, Dr. Syx now announced, in the most public manner, that he had been deceived again, and that the vein of free metal he had struck being exhausted, no other had appeared. Accordingly, he said, he must henceforth rely exclusively, as in the beginning, upon reduction of the ore.

Artemisium had proved itself an immense boon to mankind, and the new era of commercial prosperity which it had ushered in already exceeded everything that the world had known in the past. School-children learned that human civilization had taken five great strides, known respectively, beginning at the bottom, as the "age of stone," the "age of bronze," the "age of iron," the "age of gold," and the "age of artemisium."

The Mobs Object to the Restriction of the World's Currencies

NEVERTHELESS, sources of dissatisfaction finally began to appear, and, after the nature of such things, they developed with marvellous rapidity. People began to grumble about "contraction of the currency." In every country there arose a party which demanded "free money." Demagogues pointed to the brief reign of paper money after the demonetization of gold as a happy period, when the people had enjoyed their rights, and the "money barons"—borrowing a term from nineteenth-century history—were kept at bay.

Then came denunciations of the international commission for restricting the coinage. Dr. Syx was described as "a devil-fish sucking the veins of the planet and holding it helpless in the grasp of his tentacular billions." In the United States meettings of agitators passed furious resolutions, denouncing the government, assailing the rich, cursing Dr. Syx, and calling upon "the oppressed" to rise and "take their own." The final outcome was, of course, violence. Mobs had to be suppressed by military force. But the most dramatic scene in the tragedy occurred at the Grand Teton. Excited by inflammatory speeches and printed documents, several thousand armed men assembled in the neighborhood of Jenny's Lake and prepared to attack the Syx mine. For some reason the military guard had been depleted, and the mob, under the leadership of a man named Bings, who showed no little talent as a commander and strategist, surprised the small force of soldiers and locked them up in their own guard-house.

Telegraphic communication having been cut off by the astute Bings, a fierce attack was made on the mine. The assailants swarmed up the sides of the canyon, and attempted to break in through the foundation of the buildings. But the masonry was stronger than they had anticipated, and the attack failed. Sharp-shooters then climbed the neighboring heights, and kept up an incessant peppering of the walls with conical bullets driven at four thousand feet per second.

No reply come from the gloomy structure. The huge column of black smoke rose uninterruptedly into the sky, and the noise of the great engine never ceased for an instant. The mob gathered closer on all sides and redoubled the fire of the rifles, to which was now added the belching of several machine-guns. Ragged holes began to appear in the walls, and at the sight of these the assailants yelled with delight. It was evident that the mill could not long withstand so destructive a bombardment. If the besiegers had possessed artillery they would have knocked the buildings into splinters within twenty minutes. As it was, they would need a whole day to win their victory.

A Riot and An Attack On the Mill of Dr. Syx

SUDDENLY it became evident that the besieged were about to take a hand in the fight. Thus far they had not shown themselves or fired a shot, but now a movement was perceived on the roof, and the projecting arms of some kind of machinery became visible. Many marksmen concentrated their fire upon the mysterious objects, but apparently with little effect. Bings, mounted on a rock, so as to command a clear view of the field, was on the point of ordering a party to rush forward with axes and beat down the formidable doors, when there came a blinding flash from the roof, something swished through the air, and a gust of heat met the assailants in the face. Bings dropped dead from his perch, and then, as if the scythe of the Destroyer had swung downward, and to the right and left in quick succession, the close-packed mob was levelled, rank after rank, until the few survivors crept behind rocks for refuge.

Instantly the atmospheric broom swept up and down the canyon and across the mountain's flanks,

and the marksmen fell in bunches like shaken grapes. Nine-tenths of the besiegers were destroyed within ten minutes after the first movement had been noticed on the roof. Those who survived owed their escape to the rocks which concealed them, and they lost no time in crawling off into neighboring chasms, and, as soon as they were beyond eye-shot from the mill, they fled with panic speed.

Then the towering form of Dr. Syx appeared at the door. Emerging without sign of fear or excitement, he picked his way among his fallen enemies, and, approaching the military guard-house, undid the fastening and set the imprisoned soldiers free.

"I think I am paying rather dear for my whistle," he said, with a characteristic sneer, to Captain Carter, the commander of the troop. "It seems that I must not only defend my own people and property when attacked by mob force, but must also come to the rescue of the soldiers whose pay-rolls are met from my pocket."

The captain made no reply, and Dr. Syx strode back to the works. When the released soldiers saw what had occurred their amazement had no bounds. It was necessary at once to dispose of the dead, and this was no easy undertaking for their small force. However, they accomplished it, and at the beginning of their work made a most surprising discovery.

"How's this, Jim?" said one of the men to his comrade, as they stooped to lift the nearest victim of Dr, Syx's withering fire. "What's this fellow got all over him?"

"Artemisium! 'pon my soul!" responded Jim, staring at the body. "He's all coated over with it."

End of the Riot

IMMEDIATELY from all sides came similar exclamations. Every man who had fallen was covered with a film of the precious metal, as if he had been dipped into an electrolytic bath. Clothing seemed to have been charred, and the metallic atoms had penetrated the flesh of the victims. The rocks all around the battle-field were similarly veneered.

"It looks to me," said Captain Carter, "as if old Syx had turned one of his spouts of artemisium into a hose-pipe and soaked 'em with it."

"That's it," chimed in a lieutenant, "that's exactly what he's done."

"Well," returned the captain, "if he can do that, I don't see what use he's got for us here."

"Probably he don't want to waste the stuff," said the lieutenant. "What do you suppose it cost him to plate this crowd?"

"I guess a month's pay for the whole troop wouldn't cover the expense. It's costly, but then—gracious! Wouldn't I have given something for the doctor's hose when I was a youngster campaigning in the Philippines in '99?"

The story of the marvellous way in which Dr. Syx defended his mill became the sensation of the world for many days. The hose-pipe theory, struck off on the spot by Captain Carter, seized the popular fancy, and was generally accepted without further question. There was an element of the ludicrous which robbed the tragedy of some of its horror. Moreover, no one could deny that Dr. Syx was well within his rights in defending himself by any means when so savagely attacked, and his triumphant success, no less than the ingenuity which was supposed to underlie it, placed him in an heroic light which he had not hitherto enjoyed.

As to the demagogues who were responsible for the outbreak and its terrible consequences, they slunk out of the public eye, and the result of the battle at the mine seemed to have been a clearing up of the atmosphere, such as a thunderstorm effects at the close of a season of foul weather.

But now, little as men guessed it, the beginning of the end was close at hand.

CHAPTER VIII

The Detective of Science

THE morning of my arrival at Grand Teton station, on my return from the East, Andrew Hall met me with a warm greeting.

"I have been anxiously expecting you," he said, "for I have made some progress towards solving the great mystery. I have not yet reached a conclusion, but I hope soon to let you into the entire secret. In the meantime you can aid me with your companionship, if in no other way, for, since the defeat of the mob, this place has been mighty lonesome. The Grand Teton is a spot that people who have no particular business out here carefully avoid. I am on speaking terms with Dr. Syx, and occasionally, when there is a party to be shown around, I visit his works, and make the best possible use of my eyes. Captain Carter of the military is a capital fellow, and I like to hear his stories of the war in Luson forty years ago, but I want somebody to whom I can occasionally confide things, and so you are as welcome as moonlight in harvest-time."

"Tell me something about that wonderful fight with the mob. Did you see it?"

"I did. I had got wind of what Bings intended to do while I was down at Pocatello, and I hurried up here to warn the soldiers, but unfortunately I came too late. Finding the military cooped up in the guard-house and the mob masters of the situation, I kept out of sight on the side of the Teton, and watched the siege with my binocular. I think there was very little of the spectacle that I missed."

"What of the mysterious force that the doctor employed to sweep off the assailants?"

"Of course, Captain Carter's suggestion that Syx turned molten artemisium from his furnace into a hose-pipe and sprayed the enemy with it is ridiculous. But it is much easier to dismiss Carter's theory than to substitute a better one. I saw the doctor on the roof with a gang of black workmen, and I noticed the flash of polished metal turned rapidly this way and that, but there was some intervening obstacle which prevented me from getting a good view of the mechanism employed. It certainly bore no resemblance to a hose-pipe, or anything of that kind. No emanation was visible from the machine, but it was stupefying to see the mob melt down."

"How about the coating of the bodies with artemisium?"

"There you are back on the hose-pipe again," laughed Hall. "But, to tell you the truth, I'd rather be excused from expressing an opinion on that op-

eration in wholesale electro-plating just at present. I've the ghost of an idea what it means, but let me test my theory a little before I formulate it. In the meanwhile, won't you take a stroll with me?"

"Certainly; nothing could please me better," I replied. "Which way shall we go?"

"To the top of the Grand Teton."

"What! are you seized with the mountain-climbing fever?"

"Not exactly, but I have a particular reason for wishing to take a look from that pinnacle."

"I suppose you know the real apex of the peak has never been trodden by man?"

"I do know it, but it is just that apex that I am determined to have under my feet for ten minutes. The failure of others is no argument for us."

"Just as you say," I rejoined. "But I suppose there is no indiscretion in asking whether this little climb has any relation to the mystery?"

"If it didn't have an important relation to the clearing up of that dark thing I wouldn't risk my neck in such an undertaking," was the reply.

Wandering Over the Great Teton Peak

ACCORDINGLY, the next morning we set out for the peak. All previous climbers, as we were aware, had attacked it from the west. That seemed the obvious thing to do, because the westward slopes of the mountain, while very steep, are less abrupt than those which face the rising sun. In fact, the eastern side of the Grand Teton appears to be absolutely unclimable. But both Hall and I had had experience with rock climbing in the Alps and the Dolomites, and we knew that what looked like the hardest places sometimes turn out to be next to the easiest. Accordingly we decided—the more particularly because it would save time, but also because we yielded to the common desire to outdo our predecessors—to try to scale the giant right up his face.

We carried a very light but exceedingly strong rope, about five hundred feet long, wore nail-shod shoes, and had each a metal-pointed staff and a small hatchet in lieu of the regular mountaineer's axe. Advancing at first along the broken ridge between two gorges we gradually approached the steeper part of the Teton, where the cliffs looked so sheer and smooth that it seemed no wonder that nobody had ever tried to scale them. The air was deliciously clear and the sky wonderfully blue above the mountains, and the moon, a few days past its last quarter, was visible in the southwest, its pale crescent face slightly blued by the atmosphere, as it always appears when seen in daylight.

"Slow westering, a phantom sail—
The lonely soul of yesterday."

Behind us, somewhat north of east, lay the Syx works, with their black smoke rising almost vertically in the still air. Suddenly, as we stumbled along on the rough surface, something whizzed past my face and fell on the rock at my feet. I looked at the strange missile, that had come like a meteor out of open space, with astonishment.

It was a bird, a beautiful specimen of the scarlet tanagers, which I remembered the early explorers had found inhabiting the Teton canyons, their brilliant plumage borrowing splendor from contrast with the gloomy surroundings. It lay motionless, its outstretched wings having a curious shrivelled aspect, while the flaming color of the breast was half obliterated with smutty patches. Stooping to pick it up, I noticed a slight bronzing, which instantly recalled to my mind the peculiar appearance of the victims of the attack on the mine.

"Look here!" I called to Hall, who was several yards in advance. He turned, and I held up the bird by a wing?"

"Where did you get that?" he asked.

"It fell at my feet a moment ago."

Hall glanced in a startled manner at the sky, and then down the slope of the mountain.

"Did you notice in what direction it was flying?" he asked.

"No, it dropped so close that it almost grazed my nose. I saw nothing of it until it made me blink."

Andrew Hall Does Not Tell Everything

"I HAVE been heedless," muttered Hall under his breath. At the time I did not notice the singularity of his remark, my attention being absorbed in contemplating the unfortunate tanager.

"Look how its feathers are scorched," I said.

"I know it," Hall replied, without glancing at the bird.

"And it is covered with a film of artemisium," I added, a little piqued by his abstraction.

"I know that, too."

"See here, Hall," I exclaimed, "are you trying to make game of me?"

"Not at all, my dear fellow," he replied, dropping his cogitation. "Pray forgive me. But this is no new phenomenon to me. I have picked up birds in that condition on this mountain before. There is a terrible mystery here, but I am slowly letting light into it, and if we succeed in reaching the top of the peak I have good hope that the illumination will increase."

"Here now," he added a moment later, sitting down upon a rock and thrusting the blade of his penknife into a crevice, "what do you think of this?"

He held up a little nugget of pure artemisium, and then went on:

"You know that all this slope was swept as clean as a Dutch housewife's kitchen floor by the thousands of miners and prospectors who swarmed over it a year or two ago, and do you suppose they would have missed such a tidbit if it had been here then?"

"Dr. Syx must have been salting the mountain again," I suggested.

"Well," replied Hall, with a significant smile, "if the doctor hasn't salted it somebody else has, that's plain enough. But perhaps you would like to know precisely what I expect to find out when we get on the topknot of the Teton."

"I should certainly be delighted to learn the object of our journey," I said. "Of course, I'm only going along for company and for the fun of the thing; but you know you can count on me for substantial aid whenever you need it."

"It is because you are so willing to let me keep my own counsel," he rejoined, "and to wait for things to ripen before compelling me to disclose them, that I like to have you with me at critical times. Now, as to the object of this break-neck

expedition, whose risks you understand as fully as I do, I need not assure you that it is of supreme importance to the success of my plans. In a word, I hope to be able to look down into a part of Dr. Syx's mill which, if I am not mistaken, no human eye except his and those of his most trustworthy helpers has even been permitted to see. And if I see there what I fully expect to see, I shall have got a long step nearer to a great fortune."

"Good!" I cried. "*En avant*, then! We are losing time."

CHAPTER IX

The Top of the Grand Teton

"THE climbing soon became difficult, until at length we were going up hand over hand, taking advantage of crevices and knobs which an inexperienced eye would have regarded as incapable of affording a grip for the fingers or a support for the toes. Presently we arrived at the foot of a stupendous precipice, which was absolutely insurmountable by any ordinary method of ascent. Parts of it overhung, and everywhere the face of the rock was too free from irregularities to afford any footing, except to a fly.

"Now, to borrow the expression of old Bunyan, we are hard put to it," I remarked. "If you will go to the left I will take the right and see if there is any chance of getting up."

"I don't believe we could find any place easier than this," Hall replied, "and so up we go where we are."

"Have you a pair of wings concealed about you?" I asked, laughing at his folly.

"Well, something nearly as good," he responded, unstrapping his knapsack. He produced a silken bag, which he unfolded on the rock.

"A balloon!" I exclaimed. "But how are you going to inflate it?"

For reply Hall showed me a receptacle which, he said, contained liquid hydrogen, and which was furnished with a device for retarding the volatilization of the liquid so that it could be carried with little loss.

"You remember I have a small laboratory in the abandoned mine," he explained, "where we used to manufacture liquid air for blasting. This balloon I made for our present purpose. It will just suffice to carry up our rope, and a small but practically unbreakable grapple of hardened gold. I calculate to send the grapple to the top of the precipice with the balloon, and when it has obtained a firm hold in the riven rock there we can ascend, sailor fashion. You see the rope has knots, and I know your muscles are as trustworthy in such work as my own."

There was a slight breeze from the eastward, and the current of air slanting up the face of the peak assisted the balloon in mounting with its burden, and favored us by promptly swinging the little airship, with the grapple swaying beneath it, over the brow of the cliff into the atmospheric eddy above. As soon as we saw that the grapple was well over the edge we pulled upon the rope. The balloon instantly shot into view with the anchor dancing, but, under the influence of the wind, quickly returned to its former position behind the projecting brink. The grapple had failed to take hold.

"'Try, try again' must be our motto now," muttered Hall.

We tried several times with the same result, although each time we slightly shifted our position. At last the grapple caught.

"Now, all together!" cried my companion, and simultaneously we threw our weight upon the slender rope. The anchor apparently did not give an inch.

"Let me go first," said Hall, pushing me aside as I caught the first knot above my head. "It's my device, and it's only fair that I should have the first try."

Climbing Teton Peak and Trying for Its Summit

IN a minute he was many feet up the wall, climbing swiftly hand over hand, but occasionally stopping and twisting his leg around the rope while he took breath.

"It's easier than I expected," he called down, when he had ascended about one hundred feet. "Here and there the rock offers a little hold for the knees."

I watched him, breathless with anxiety, and, as he got higher, my imagination pictured the little gold grapple, invisible above the brow of the precipice, with perhaps a single thin prong wedged into a crevice, and slowly ploughing its way towards the edge with each impulse of the climber, until but another pull was needed to set it flying! So vivid was my fancy that I tried to banish it by noticing that a certain knot in the rope remained just at the level of my eyes, where it had been from the start. Hall was now fully two hundred feet above the ledge on which I stood, and was rapidly nearing the top of the precipice. In a minute more he would be safe.

Suddenly he shouted, and, glancing up with a leap of the heart, I saw that he was falling! He kept his face to the rock, and came down feet foremost. It would be useless to attempt any description of my feelings; I would not go through that experience again for the price of a battleship. Yet it lasted less than a second. He had dropped not more than ten feet when the fall was arrested.

"All right!" he called, cheerily. "No harm done! It was only a slip."

But what a slip! If the balloon had not carried the anchor several yards back from the edge it would have had no opportunity to catch another hold as it shot forward. And how could we know that the second hold would prove more secure than the first? Hall did not hesitate, however, for one instant. Up he went again. But, in fact, his best chance was in going up, for he was within four yards of the top when the mishap occurred. With a sigh of relief I saw him at last throw his arm over the verge and then wriggle his body upon the ledge. A few seconds later he was lying on his stomach, with his face over the edge, looking down at me.

"Come on!" he shouted. "It's all right."

When I had pulled myself over the brink at his side I grasped his hand and pressed it without a word. We understand one another.

"It was pretty close to a miracle," he remarked at last. "Look at this."

The rock over which the grapple had slipped was deeply scored by the unyielding point of the metal, and exactly at the verge of the precipice the prong had wedged itself into a narrow crack, so firmly that we had to chip away the stone in order to release it. If it had slipped a single inch farther be-

fore taking hold it would have been all over with my friend.

The Summit Attained by the Two Explorers

SUCH experiences shake the strongest nerves, and we sat on the shelf we had attained for fully a quarter of an hour before we ventured to attack the next precipice which hung beetling directly above us. It was not as lofty as the one we had just ascended, but it impended to such a degree that we saw we should have to climb our rope while it swung free in the air!

Luckily we had little difficulty in getting a grip for the prongs, and we took every precaution to test the security of the anchorage, not only putting our combined weight repeatedly upon the rope, but flipping and jerking it with all our strength. The grapple resisted every effort to dislodge it, and finally I started up, insisting on my turn as leader.

The height I had to ascend did not exceed one hundred feet, but that is a very great distance to climb on a swinging rope, without a wall within reach to assist by its friction and occasional friendly projections. In a little while my movements, together with the effect of the slight wind, had imparted a most distressing oscillation to the rope. This sometimes carried me with a nerve-shaking bang against a prominent point of the precipice, where I would dislodge loose fragments that kept Hall dodging for his life, and then I would swing out, apparently beyond the brow of the cliff below, so that, as I involuntarily glanced downward, I seemed to be hanging in free space, while the steep mountainside, looking ten times steeper than it really was, resembled the vertical wall of an absolutely bottomless abyss, as if I were suspended over the edge of the world.

I avoided thinking of what the grapple might be about, and in my haste to get through with the awful experience I worked myself fairly out of breath, so that, when at last I reached the rounded brow of the cliff, I had to stop and cling there for fully a minute before I could summon strength enough to lift myself over it.

When I was assured that the grapple was still securely fastened I signalled to Hall, and he soon stood at my side, exclaiming, as he wiped the perspiration from his face:

"I think I'll try wings next time!"

But our difficulties had only begun. As we had foreseen, it was a case of Alp above Alp, to the very limit of human strength and patience. However, it would have been impossible to go back. In order to descend the two precipices we had surmounted it would have been necessary to leave our life-lines clinging to the rocks, and we had not rope enough to do that. If we could not reach the top we were lost.

A View from the Summit and Spying on Dr. Syx

HAVING refreshed ourselves with a bite to eat and a little stimulant, we resumed the climb. After several hours of the most exhausting work I have ever performed we pulled our weary limbs upon the narrow ridge, but a few square yards in area, which constitutes the apex of the Grand Teton. A little below, on the opposite side of a steep-walled gap which divides the top of the mountain into two parts, we saw the singular enclosure of stones which the early white explorers found there, and which they ascribed to the Indians, although nobody has ever known who built it or what purpose it served.

The view was, of course, superb, but while I was admiring it in all its wonderful extent and variety, Hall, who had immediately pulled out his binocular, was busy inspecting the Syx works, the top of whose great tufted smoke column was thousands of feet beneath our level. Jackson's Lake, Jenny's Lake, Leigh's Lake, and several lakelets glittered in the sunlight amid the pale grays and greens of Jackson's Hole, while many a bending reach of the Snake River shone amid the wastes of sage-brush and rock.

"There!" suddenly exclaimed Hall, "I thought I should find it."

"What?"

"Take a look through my glass at the roof of Syx's mill. Look just in the centre."

"Why, it's open in the middle!" I cried as soon as I had put the glass to my eyes. "There's a big circular hole in the centre of the roof."

"Look inside! Look inside!" repeated Hall, impatiently.

"I see nothing there except something bright."

"Do you call it nothing because it is bright?"

"Well, no," I replied, laughing. "What I mean is that I see nothing that I can make anything of except a shining object, and all I can make of that is that it is bright."

"You've been in the Syx works many times, haven't you?"

"Yes."

"Did you ever see the opening in the roof?"

"Never."

"Then Dr. Syx doesn't show his visitors everything that is to be seen."

"Evidently not since, as we know, he concealed the double tunnel and the room under the furnace."

Dr. Syx An Alchemist

"DR. SYX has concealed a bigger secret than that," Hall responded, "and the Grand Teton has helped me to a glimpse of it."

For several minutes my friend was absorbed in thought. Then he broke out:

"I tell you he's the most wonderful man in the world!"

"Who, Dr. Syx? Well, I've long thought that."

"Yes, but I mean in a different way from what you are thinking of. Do you remember my asking you once if you believed in alchemy?"

"I remember being greatly surprised by your question to that effect."

"Well, now," said Hall, rubbing his hands with a satisfied air, while his eyes glanced keen and bright with the reflection of some passing thought, "Max Syx is greater than any alchemist that ever lived. If those old fellows in the dark ages had accomplished everything they set out to do, they would have been of no more consequence in comparison with our black-browed friend down yonder than—than my head is of consequence in comparison with the moon."

"I fear you flatter the man in the moon," was my laughing reply.

"No, I don't," returned Hall, "and some day you'll admit it."

"Well, what about that something that shines down there? You seem to see more in it than I can."

Dr. Syx Is Suspicious About the Climb to the Summit

"BUT my companion had fallen into a reverie and didn't hear my question. He was gazing abstractedly at the faint image of the wandering moon, now nearing the mountain-top in the distance. Presently his mind seemed to return to the old magnet, and he whirled about and glanced down at the Syx mill. The column of smoke was diminishing in volume, an indication that the engine was about to enjoy one of its periodical rests. The irregularity of these stoppages had always been a subject of remark among practical engineers. The hours of labor were exceedingly erratic, but the engine had never been known to work at night, except on one occasion, and then only for a few minutes, when it was suddenly stopped on account of a fire.

Just as Hall resumed his inspection two huge quarter spheres, which had been resting wide apart on the roof, moved towards one another until their arched sections met over the circular aperture which they covered like the dome of an observatory.

"I expected it," Hall remarked. "But come, it is mid-afternoon, and we shall need all of our time to get safely down before the light fades."

Dr. Syx Speaks to Them

AS I have already explained, it would not have been possible for us to return the way we came. We determined to descend the comparatively easy western slopes of the peak, and pass the night on that side of the mountain. Letting ourselves down with the rope into the hollow way that divides the summit of the Teton into two pinnacles, we had no difficulty in descending by the route followed by all previous climbers. The weather was fine, and, having found good shelter among the rocks, we passed the night in comfort. The next day we succeeded in swinging round upon the eastern flank of the Teton, below the more formidable cliffs, and, just at nightfall, we arrived at the station. As we passed the Syx mine the doctor himself confronted us. There was a very displeasing look on his dark countenance, and his sneer was strongly marked.

"So you have been on top of the Teton?" he said.

"Yes," replied Hall, very blandly, "and if you have a taste for that sort of thing I should advise you to go up. The view is immense, as fine as the best in the Alps."

"Pretty ingenious plan, that balloon of yours," continued the doctor, still looking black.

"Thank you," Hall replied, more suavely than ever. "I've been planning that a long time. You probably don't know that mountaineering used to be my chief amusement."

The doctor turned away without pursuing the conversation.

"I could kick myself," Hall muttered as soon as Dr. Syx was out of earshot. "If my absurd wish to outdo others had not blinded me, I should have known that he would see us going up this side of the peak, particularly with the balloon to give us away. However, what's done can't be undone. He may not really suspect the truth, and if he does he can't help himself, even though he is the richest man in the world."

Strange Fate of a Kite

"ARE you ready for another tramp?" was Andrew Hall's greeting when we met early on the morning following our return from the peak.

"Certainly I am. What is your programme for to-day?"

"I wish to test the flying qualities of a kite which I have constructed since our return last night."

"You don't allow the calls of sleep to interfere very much with your activity."

"I haven't much time for sleep just now," replied Hall, without smiling. "The kite test will carry us up the flanks of the Teton, but I am not going to try for the top this time. If you will come along I'll ask you to help me by carrying and operating a light transit. I shall carry another myself. I am desirous to get the elevation that the kite attains and certain other data that will be of use to me. We will make a detour towards the south, for I don't want old Syx's suspicions to be prodded any more."

"What interest can he have in your kite-flying?"

"The same interest that a burglar has in the rap of a policeman's night-stick."

"Then your experiment to-day has some connection with the solution of the great mystery?"

"My dear fellow," said Hall, laying his hand on my shoulder, "until I see the end of that mystery I shall think of nothing else."

In a few hours we were clambering over the broken rocks on the southeastern flank of the Teton at an elevation of about three thousand feet above the level of Jackson's Hole. Finally Hall paused and began to put his kite together. It was a small box-shaped affair, very light in construction, with paper sides.

"In order to diminish the chances of Dr. Syx noticing what we are about," he said, as he worked away, "I have covered the kite with sky-blue paper. This, together with distance, will probably insure us against his notice."

In a few minutes the kite was ready. Having ascertained the direction of the wind with much attention, he stationed me with my transit on a commanding rock, and sought another post for himself at a distance of two hundred yards, which he carefully measured with a gold tape. My instructions were to keep the telescope on the kite as soon as it had attained a considerable height, and to note the angle of elevation and the horizontal angle with the base line joining our points of observation.

"Be particularly careful," was Hall's injunction, "and if anything happens to the kite by all means note the angles at that instant."

As soon as we had fixed our stations Hall began to pay out the string, and the kite rose very swiftly. As it sped away into the blue it was soon practically invisible to the naked eye, although the telescope of the transit enabled me to follow it with ease.

Aerial Trigonometry—Hall Reticent

GLANCING across now and then at my companion, I noticed that he was having considerable difficulty in, at the same time, managing the kite and manipulating his transit. But as the kite continued to rise and steadied in position his task became easier, until at length he ceased to remove his eye from the telescope while holding the string with outstretched hand.

"Don't lose sight of it now for an instant!" he shouted.

For at least half an hour he continued to manipulate the string, sending the kite now high towards the zenith with a sudden pull, and then letting it drift off. It seemed at last to become almost a fixed point. Very slowly the angles changed, when, suddenly, there was a flash, and to my amazement I saw the paper of the kite shrivel and disappear in a momentary flame, and then the bare sticks came tumbling out of the sky.

"Did you get the angles?" yelled Hall, excitedly.

"Yes; the telescope is still pointed on the spot where the kite disappeared."

"Read them off," he called, "and then get your angle with Syx works."

"All right," I replied, doing as he had requested, and noticing at the same time that he was in the act of putting his watch in his pocket. "Is there anything else?" I asked.

"No, that will do, thank you."

Hall came running over, his face beaming, and with the air of a man who has just hooked a particularly cunning old trout.

"Ah!" he exclaimed, "this has been a great success! I could almost dispense with the calculation, but it is best to be sure."

"What are you about, anyhow?" I asked, "and what was it that happened to the kite?"

"Don't interrupt me just now, please," was the only reply I received.

Mr. Hall Decides to Try Alchemy Too

THEREUPON my friend sat down on a rock, pulled out a pad of paper, noted the angles which I had read on the transit, and fell to figuring with feverish haste. In the course of his work he consulted a pocket almanac, then glanced up at the sky, muttered approvingly, and finally leaped to his feet with a half-suppressed "Hurrah!" If I had not known him so well I should have thought that he had gone daft.

"Will you kindly tell me," I asked, "how you managed to set the kite afire?"

Hall laughed heartily. "You thought it was a trick, did you?" said he. "Well, it was no trick, but a very beautiful demonstration. You surely haven't forgotten the scarlet tanager that gave you such a surprise the day before yesterday."

"Do you mean," I exclaimed, startled at the suggestion, "that the fate of the bird had any connection with the accident to your kite?"

"Accident isn't precisely the right word," replied Hall. "The two things are as intimately related as own brothers. If you should care to hunt up the kite sticks, you would find that they, too, are now artemisium plated."

"This is getting too deep for me," was all that I could say.

"I am not absolutely confident that I have touched bottom myself," said Hall, "but I'm going to make another dive, and if I don't bring up treasures greater than Vanderdecken found at the bottom of the sea, then Dr. Syx is even a more wonderful human mystery than I have thought him to be."

"What do you propose to do next?"

"To shake the dust of the Grand Teton from my shoes and go to San Francisco, where I have an extensive laboratory."

"So you are going to try a little alchemy yourself, are you?"

"Perhaps; who knows? At any rate, my good friend, I am forever indebted to you for your assistance, and even more for your discretion, and if I succeed you shall be the first person in the world to hear the news."

CHAPTER X

Better Than Alchemy

I COME now to a part of my narrative which would have been deemed altogether incredible in those closing years of the nineteenth century that witnessed the first steps towards the solution of the deepest mysteries of the ether, although men even then held in their hands, without knowing it, powers which, after they had been mastered and before use had made them familiar, seemed no less than godlike.

For six months after Hall's departure for San Francisco I heard nothing from him. Notwithstanding my intense desire to know what he was doing, I did not seek to disturb him in his retirement. In the meantime things ran on as usual in the world, only a ripple being caused by renewed discoveries of small nuggets of artemisium on the Tetons, a fact which recalled to my mind the remark of my friend when he dislodged a flake of the metal from a crevice during our ascent of the peak. At last one day I received this telegram at my office in New York:

"SAN FRANCISCO, May 16, 1940.

"Come at once. The mystery is solved.

"(Signed) HALL."

As soon as I could pack a grip I was flying westward one hundred miles an hour. On reaching San Francisco, which had made enormous strides since the opening of the twentieth century, owing to the extension of our Oriental possessions, and which already ranked with New York and Chicago among the financial capitals of the world, I hastened to Hall's laboratory. He was there expecting me, and, after a hearty greeting, during which his elation over his success was manifest, he said:

"I am compelled to ask you to make a little journey. I found it impossible to secure the necessary privacy here, and, before opening my experiments, I selected a site for a new laboratory in an unfrequented spot among the mountains this side of Lake Tahoe. You will be the first man, with the exception of my two devoted assistants, to see my apparatus, and you shall share the sensation of the critical experiment."

"Then you have not yet completed your solution of the secret?"

"Yes, I have; for I am as certain of the result

as if I had seen it, but I thought you were entitled to be in with me at the death."

A Visit to the Hall Laboratory. Experimenting With a Gold Cathode

FROM the nearest railway station we took horses to the laboratory, which occupied a secluded but most beautiful site at an elevation of about six thousand feet above sea-level. With considerable surprise I noticed a building surmounted with a dome, recalling what we had seen from the Grand Teton on the roof of Dr. Syx's mill. Hall, observing my look, smiled significantly, but said nothing. The laboratory proper occupied a smaller building adjoining the domed structure. Hall led the way into an apartment having but a single door and illuminated by a skylight.

"This is my sanctum sanctorum," he said, "and you are the first outsider to enter it. Seat yourself comfortably while I proceed to unveil a little corner of the artemisium mystery."

Near one end of the room, which was about thirty feet in length, was a table, on which lay a glass tube about two inches in diameter and thirty inches long. In the farther end of the tube gleamed a lump of yellow metal, which I took to be gold. Hall and I were seated near another table about twenty-five feet distant from the tube, and on this table was an apparatus finished with a concave mirror, whose optical axis was directed towards the tube. It occurred to me at once that this apparatus would be suitable for experimenting with electric waves. Wires ran from it to the floor, and in the cellar beneath was audible the beating of an engine. My companion made an adjustment or two, and then remarked:

"Now, keep your eyes on the lump of gold in the farther end of the tube yonder. The tube is exhausted of air, and I am about to concentrate upon the gold an intense electric influence, which will have the effect of making it a kind of cathode pole. I only use this term for the sake of illustration. You will recall that as long ago as the days of Crookes it was known that a cathode in an exhausted tube would project particles, or atoms, of its substance away in straight lines. Now watch!"

I fixed my attention upon the gold, and presently saw it enveloped in a most beautiful violet light. This grew more intense, until, at times, it was blinding, while, at the same moment, the interior of the tube seemed to have become charged with a luminous vapor of a delicate pinkish hue.

"Watch! Watch!" said Hall. "Look at the nearer end of the tube!"

"Why, it's becoming coated with gold!" I exclaimed.

Continuation of the Experiment

HE smiled, but made no reply. Still the strange process continued. The pink vapor became so dense that the lump of gold was no longer visible, although the eye of violet light glared piercingly through the colored fog. Every second the deposit of metal, shining like a mirror, increased, until suddenly there came a curious whistling sound. Hall, who had been adjusting the mirror, jerked away his hand and gave it a flip, as if hot water had spattered it, and then the light in the tube quickly died away, the vapor escaped, filling the room with a peculiar stimulating odor, and I perceived that the end of the glass tube had been melted through, and the molten gold was slowly dripping from it.

"I carried it a little too far," said Hall, ruefully rubbing the back of his hand, "and when the glass gave way under the atomic bombardment a few atoms of gold visited my bones. But there is no harm done. You observed that the instant the air reached the cathode, as I for convenience call the electrified mass of gold, the action ceased."

"But your anode, to continue your simile," I said, "is constantly exposed to the air."

"True," he replied, "but in the first place, of course, this is not really an anode, just as the other is not really a cathode. As science advances we are compelled, for a time, to use old terms in a new sense until a fresh nomenclature can be invented. But we are now dealing with a form of electric action more subtile in its effects than any at present described in the text-books and the transactions of learned societies. I have not yet even attempted to work out the theory of it. I am only concerned with its facts."

"But wonderful as the exhibition you have given is, I do not see," I said, "how it concerns Dr. Syx and his artemisium."

"Listen," replied Hall, settling back in his chair after disconnecting his apparatus. "You no doubt have been told how one night the Syx engine was heard working for a few minutes, the first and only night work it was ever known to have done, and how, hardly had it started up when a fire broke out in the mill, and the engine was instantly stopped. Now there is a very remarkable story connected with that, and it will show you how I got my first clew to the mystery, although it was rather a mere suspicion than a clew, for at first I could make nothing out of it. The alleged fire occurred about a fortnight after our discovery of the double tunnel. My mind was then full of suspicions concerning Syx, because I thought that a man who would fool people with one hand was not likely to deal fairly with the other.

The Suspicious Actions of Dr. Syx Explained

"IT was a glorious night, with a full moon, whose face was so clear in the limpid air that, having found a snug place at the foot of a yellow-pine-tree, where the ground was carpeted with odiferous needles, I lay on my back and renewed my early acquaintance with the romantically named mountains and 'seas' of the Lunar globe. With my binocular I could trace those long white streaks which radiate from the crater ring, called 'Tycho,' and run hundreds of miles in all directions over the moon. As I gazed at these singular objects I recalled the various theories which astronomers, puzzled by their enigmatical aspects, have offered to a more or less confiding public concerning them.

"In the midst of my meditation and moon gazing I was startled by hearing the engine in the Syx works suddenly begin to run. Immediately a queer light, shaped like the beam of a ship's searchlight, but reddish in color, rose high in the moonlit heavens above the mill. It did not last more than a minute or two, for almost instantly the engine was

stopped, and with its stoppage the light faded and soon disappeared. The next day Dr. Syx gave it out that on starting up his engine in the night something had caught fire, which compelled him immediately to shut down again. The few who had seen the light, with the exception of your humble servant, accepted the doctor's explanation without a question. But I knew there had been no fire, and Syx's anxiety to spread the lie led me to believe that he had narrowly escaped giving away a vital secret. I said nothing about my suspicions, but upon inquiry I found out that an extra and pressing order for metal had arrived from the Austrian government the very day of the pretended fire, and I drew the inference that Syx, in his haste to fill the order—his supply having been drawn low—had started to work, contrary to his custom, at night, and had immediately found reason to repent his rashness. Of course, I connected the strange light with this sudden change of mind.

"My suspicions having been thus stimulated, and having been directed in a certain way, I began, from that moment to notice closely the hours during which the engine labored. At night it was always quiet, except on that one brief occasion. Sometimes it began early in the morning and stopped about noon. At other times the work was done entirely in the afternoon, beginning sometimes as late as three or four o'clock, and ceasing invariably at sundown. Then again it would start at sunrise and continue the whole day through.

"For a long time I was unable to account for these eccentricities, and the problem was not rendered much clearer, although a startling suggestiveness was added to it, when, at length, I noticed that the periods of activity of the engine had a definite relation to the age of the moon. Then I discovered, with the aid of an almanac, that I could predict the hours when the engine would be busy. At the time of new moon it worked all day; at full moon, it was idle; between full moon and last quarter, it labored in the forenoon, the length of its working hours increasing as the quarter was approached; between last quarter and new moon, the hours of work lengthened, until, as I have said, at new moon they lasted all day; between new moon and first quarter, work began later and later in the forenoon as the quarter was approached, and between first quarter and full moon the laboring hours rapidly shortened, being confined to the latter part of the afternoon, until at full moon complete silence reigned in the mill."

The Moon Is Concerned in Dr. Syx's Mystery

"WELL! well!" I broke in, greatly astonished by Hall's singular recital, "you must have thought Dr. Syx was a cross between an alchemist and an astrologer."

"Note this," said Hall, disregarding my interruption, "the hours when the engine worked were invariably the hours during which the moon was above the horizon!"

"What did you infer from that?"

"Of course, I inferred that the moon was directly concerned in the mystery; but how? That bothered me for a long time, but a little light broke into my mind when I picked up, on the mountain-side, a dead bird, whose scorched feathers were bronzed with artemisium, and sometime later another similar victim of a mysterious form of death. Then came the attack on the mine and its tragic finish. I have already told you what I observed on that occasion. But, instead of helping to clear up the mystery, it rather complicated it for a time. At length, however, I reasoned my way partly out of the difficulty. Certain things which I had noticed in the Syx mill convinced me that there was a part of the building whose existence no visitor suspected, and, putting one thing with another, I inferred that the roof must be open above that secret part of the structure, and that if I could get upon a sufficiently elevated place I could see something of what was hidden there.

"At this point in the investigation I proposed to you the trip to the top of the Teton, the result of which you remember. I had calculated the angles with great care, and I felt certain that from the apex of the mountain I should be able to get a view into the concealed chamber, and into just that side of it which I wished particularly to inspect. You remember that I called your attention to a shining object underneath the circular opening in the roof. You could not make out what it was, but I saw enough to convince me that it was a gigantic parabolic mirror. I'll show you a smaller one of the same kind presently.

"Now, at last, I began to perceive the real truth, but it was so wildly incredible, so infinitely remote from all human experience, that I hardly ventured to formulate it, even in my own secret mind. But I was bound to see the thing through to the end. It occurred to me that I could prove the accuracy of my theory with the aid of a kite. You were kind enough to lend your assistance in that experiment, and it gave me irrefragable evidence of the existence of a shaft of flying atoms extending in a direct line between Dr. Syx's pretended mine and the moon!"

"Hall!" I exclaimed, "you are mad!"

My friend smiled good-naturedly, and went on with his story.

Why the Kite Was Burned

THE instant the kite shrivelled and disappeared I understood why the works were idle when the moon was not above the horizon, why birds flying across that fatal beam fell dead upon the rocks, and whence the terrible master of that mystery mill derived the power of destruction that could wither an army as the Assyrian host in Byron's poem:

"Melted like snow in the glance of the Lord."

"But how did Dr. Syx turn the flying atoms against his enemies?" I asked.

"In a very simple manner. He had a mirror mounted so that it could be turned in any direction, and would shunt the stream of metallic atoms, heated by their friction with the air, towards any desired point. When the attack came he raised this machine above the level of the roof and swept the mob to a lustrous, if expensive, death."

"And the light at night—"

"Was the shining of the heated atoms, not luminous enough to be visible in broad day, for which reason the engine never worked at night, and the

stream of volatized artemisium was never set flowing at full moon, when the lunar globe is above the horizon only during the hours of darkness."

"I see," I said, "whence came the nuggets on the mountain. Some of the atoms, owing to the resistance of the air, fell short and settled in the form of impalpable dust until the winds and rains collected and compacted them in the cracks and crevices of the rocks."

"That was it, of course."

"And now," I added, my amazement at the success of Hall's experiments and the accuracy of his deductions increasing every moment, "do you say that you have also discovered the means employed by Dr. Syx to obtain artemisium from the moon?"

"Not only that," replied my friend, "but within the next few minutes I shall have the pleasure of presenting to you a button of moon metal, fresh from the veins of Artemis herself."

CHAPTER XI

The Looting of the Moon

"I SHALL spare the reader a recital of tireless efforts, continuing through many almost sleepless weeks, whereby Andrew Hall obtained his clew to Dr. Syx's method. It was manifest from the beginning that the agent concerned must be some form of etheric, or so-called electric energy; but how to set it in operation was the problem. Finally he hit upon the apparatus for his initial experiments which I have already described.

"Recurring to what had been done more than half a century ago by Hertz, when he concentrated electric waves upon a focal point by means of a concave mirror," said Hall, "I saw that the key I wanted lay in an extension of these experiments. At last I found that I could transform the energy of an engine into undulations of the ether, which, when they had been concentrated upon a metallic object, like a chunk of gold, imparted to it an intense charge of an apparently electric nature. Upon thus charging a metallic body enclosed in a vacuum, I observed that the energy imparted to it possessed the remarkable power of disrupting its atoms and projecting them off in straight lines, very much as occurs with a cathode in a Crookes's tube. But—and this was of supreme importance—I found that the line of projection was directly towards the apparatus from which the impulse producing the charge had come. In other words, I could produce two poles between which a marvellous interaction occurred. My transformer, with its concentrating mirror, acted as one pole, from which energy was transferred to the other pole, and that other pole immediately flung off atoms of its own substance in the direction of the transformer. But these atoms were stopped by the glass wall of the vacuum tube; and when I tried the experiment with the metal removed from the vacuum, and surrounded with air, it failed utterly.

"This at first completely discouraged me, until I suddenly remembered that the moon is in a vacuum, the great vacuum of interplanetary space, and that it possesses no perceptible atmosphere of its own. At this a great light broke around me, and I shouted 'Eureka!' Without hesitation I constructed a transformer of great power, furnished with a large parabolic mirror to transmit the waves in parallel lines, erected the machinery and buildings here, and when all was ready for the final experiment I telegraphed for you."

Details of Hall's Experiments

PREPARED by these explanations I was all on fire to see the thing tried. Hall was no less eager, and, calling in his two faithful assistants to make the final adjustments, he led the way into what he facetiously named "the lunar chamber."

"If we fail," he remarked with a smile that had an element of worriment in it, "it will become the 'lunatic chamber'—but no danger of that. You observe this polished silver knob, suported by a metallic rod curved over at the top like a crane. That constitutes the pole from which I propose to transmit the energy to the moon, and upon which I expect the storm of atoms to be centred by reflection from the mirror at whose focus it is placed."

"One moment," I said. "Am I to understand that you think that the moon is a solid mass of artemisium, and that no matter where your radiant force strikes it a 'cathodic pole' will be formed there from which atoms will be projected to the earth?"

"No," said Hall, "I must carefully choose the point on the lunar surface where to operate. But that will present no difficulty. I made up my mind as soon as I had penetrated Syx's secret that he obtained the metal from those mystic white streaks which radiate from Tycho, and which have puzzled the astronomers ever since the invention of telescopes. I now believe those streaks to be composed of immense veins of the metal that Syx has most appropriately named artemisium, which you, of course, recognize as being derived from the name of the Greek goddess of the moon, Artemis, whom the Romans called Diana. But now to work!"

It was less than a day past the time of new moon, and the earth's satellite was too near the sun to be visible in broad daylight. Accordingly, the mirror had to be directed by means of knowledge of the moon's place in the sky. Driven by accurate clockwork, it could be depended upon to retain the proper direction when once set.

With breathless interest I watched the proceedings of my friend and his assistants. The strain upon the nerves of all of us was such as could not have been borne for many hours at a stretch. When everything had been adjusted to his satisfaction, Hall stepped back, not without betraying his excitement in flushed cheeks and flashing eyes, and pressed a lever. The powerful engine underneath the floor instantly responded. The experiment was begun.

"I have set it upon a point about a hundred miles north of Tycho, where the Yerkes photographs show a great abundance of the white substance," said Hall.

Then he waited. A minute elapsed. A bird, fluttering in the opening above, for a second or two, wrenched our strained nerves. Hall's face turned pale.

"They had better keep away from here," he whispered, with a ghastly smile.

Two minutes! I could hear the beating of my heart. The engine shook the floor.

Three minutes! Hall's face was wet with perspi-

ration. The bird blundered in and startled us again.

Hall Produces Artemisium On a Small Scale

FOUR minutes! We were like statues, with all eyes fixed on the polished ball of silver, which shone in the brilliant light concentrated upon it by the mirror.

Five minutes! The shining ball had become a confused blue, and I violently winked to clear my vision.

"At last! Thank God! Look! There it is!"

It was Hall who spoke, trembling like an aspen. The silver knob had changed color. What seemed a miniature rainbow surrounded it with concentric circles of blinding brilliance.

Then something dropped flashing into an earthen dish set beneath the ball! Another glittering drop followed, and, at a shorter interval, another!

Almost before a word could be uttered the drops had coalesced and become a tiny stream, which, as it fell, twisted itself into a bright spiral, gleaming with a hundred shifting hues, and forming on the bottom of the dish a glowing, interlacing maze of viscid rings and circlets, which turned and twined about and over one another, until they had blended and settled into a button-shaped mass of hot metallic jelly. Hall snatched the dish away, and placed another in its stead.

"This will be about right for a watch charm when it cools," he said, with a return to his customary self-command. "I promised you the first specimen. I'll catch another for myself."

"But can it be possible that we are not dreaming?" I exclaimed. "Do you really believe that this comes from the moon?"

"Just as surely as rain comes from the clouds," cried Hall, with all his old impatience. "Haven't I just showed you the whole process?"

"Then I congratulate you. You will be as rich as Dr. Syx."

"Perhaps," was the unperturbed reply, "but not until I have enlarged my apparatus. At present I shall hardly do more than supply mementoes to my friends. But since the principle is established, the rest is mere detail."

Six weeks later the financial centres of the earth were shaken by the news that a new supply of artemisium was being marketed from a mill which had been secretly opened in the Sierras of California. For a time there was almost a panic. If Hall had chosen to do so, he might have precipitated serious trouble. But he immediately entered into negotiations with government representatives, and the inevitable result was that, to preserve the monetary system of the world from upheaval, Dr. Syx had to consent that Hall's mill should share equally with his in the production of artemisium. During the negotiations the doctor paid a visit to Hall's establishment. The meeting between them was most dramatic. Syx tried to blast his rival with a glance, but knowledge is power, and my friend faced his mysterious antagonist, whose deepest secrets he had penetrated, with an unflinching eye. It was remarked that Dr. Syx became a changed man from that moment. His masterful air seemed to have deserted him, and it was with something resembling humility that he assented to the arrangement which required him to share his enormous gains with his conqueror.

The Syx Mill Is Blown Up

OF course, Hall's success led to an immediate recrudescence of the efforts to extract artemisium from the Syx ore, and, equally of course, every such attempt failed. Hall, while keeping his own secret, did all he could to discourage the experiments, but they naturally believed that he must have made the very discovery which was the subject of their dreams, and he could not without betraying himself, and upsetting the finances of the planet, directly undeceive them. The consequence was that fortunes were wasted in hopeless experimentation, and, with Hall's achievement dazzling their eyes, the deluded fortune-seekers kept on in the face of endless disappointments and disaster.

And presently there came another tragedy. The Syx mill was blown up! The accident—although many people refused to regard it as an accident, and asserted that the doctor himself, in his chagrin, had applied the match—the explosion, then, occurred about sundown, and its effects were awful. The great works, with everything pertaining to them, and every rail that they contained, were blown to atoms. They disappeared as if they had never existed. Even the twin tunnels were involved in the ruin, a vast cavity being left in the mountainside where Syx's ten acres had been. The force of the explosion was so great that the shattered rock was reduced to dust. To this fact was owing the escape of the troops camped near. While the mountain was shaking to its core, and enormous parapets of living rock were hurled down the precipices of the Teton, no missiles of appreciable size traversed the air, and not a man at the camp was injured.

But Jackson's Hole, filled with red dust, looked for days afterwards like the mouth of a tremendous volcano just after an eruption. Dr. Syx had been seen entering the mill a few minutes before the catastrophe by a sentinel who was stationed about a quarter of a mile away, and who, although he was felled like an ox by the shock, and had his eyes, ears, and nostrils filled with flying dust, miraculously escaped with his life.

After this a new arrangement was made whereby Andrew Hall became the sole producer of artemisium, and his wealth began to mount by leaps of millions toward the starry heights of the billions.

About a year after the explosion of the Syx mill a strange rumor got about. It came first from Budapest, in Hungary, where it was averred several persons of credibility had seen Dr. Max Syx. Millions had been familiar with his face and his personal peculiarities, through actually meeting him, as well as through photographs and descriptions, and, unless there was an intention to deceive, it did not seem possible that a mistake could be made in identification.

There surely never was another man who looked just like Dr. Syx. And, besides, was it not generally known that he must have perished in the awful destruction of his mill?

The Secret of Producing Artemisium Becomes Public Property

SOON after came a report that Dr. Syx had been seen again; this time at Ekaterinburg, in the Urals. Next he was said to have paid a visit to Batang, in the mountainous district of southwestern China, and finally, according to rumor, he was seen in Sicily, at Nicolosi, among the volcanic pimples on the southern slope of Mount Etna.

Next followed something of more curious and even startling interest. A chemist at Budapest, where the first rumors of Syx's reappearance had placed the mysterious doctor, announced that he could produce artemisium, and proved it, although he kept his process secret. Hardly had the sensation caused by this news partially subsided when a similar report arrived from Ekaterinburg; then another from Batang; after that a fourth from Nicolosi!

Nobody could fail to notice the coincidence; wherever the doctor—or was it his ghost?—appeared, there, shortly afterwards, somebody discovered the much-sought secret.

After Syx's apparitions rapidly increased in frequency, followed in each instance by the announcement of another productive artemisium mill. He appeared in Germany, Italy, France, England, and finally at many places in the United States.

"It is the old doctor's revenge," said Hall to me one day, trying to smile, although the matter was too serious to be taken humorously. "Yes, it is his revenge, and I must admit that it is complete. The price of artemisium has fallen one-half within six months. All the efforts we have made to hold back the floor have proved useless. The secret itself is becoming public property. We shall inevitably be overwhelmed with artemisium, just as we were with gold, and the last condition of the financial world will be worse than the first."

My friend's gloomy prognostications came near being fulfilled to the letter. Ten thousand artemisium mills shot their etheric rays upon the moon, and our unfortunate satellite's metal ribs were stripped by atomic force. Some of the great white rays that had been one of the telescopic wonders of the lunar landscapes disappeared, and the face of the moon, which had remained unchanged before the eyes of the children of Adam from the beginning of their race, now looked as if the blast of a furnace had swept it. At night, on the moonward side, the earth was studded with brilliant spikes, all pointed at the heart of its child in the sky.

But the looting of the moon brought disaster to the robber planet. So mad were the efforts to get the precious metal that the surface of our globe was fairly showered with it, productive fields were, in some cases, almost smothered under a metallic coating, the air was filled with shining dust, until finally famine and pestilence joined hands with financial disaster to punish the grasping world.

Then, at last, the various governments took effective measures to protect themselves and their people. Another combined effort resulted in an international agreement whereby the production of the precious moon metal was once more rigidly controlled. But the existence of a monopoly, such as Dr. Syx had so long enjoyed, and in the enjoyment of which Andrew Hall had for a brief period succeeded him, was henceforth rendered impossible.

CHAPTER XII

The Last of Dr. Syx

MANY years after the events last recorded I sat, at the close of a brilliant autumn day, side by side with my old friend Andrew Hall, on a broad, vine-shaded piazza which faced the east, where the full moon was just rising above the rim of the Sierra, and replacing the rosy counter-glow of sunset with its silvery radiance. The sight was calculated to carry the minds of both back to the events of former years. But I noticed that Hall quickly changed the position of his chair, and sat down again with his back to the rising moon. He had managed to save some millions from the wreck of his vast fortune when artemisium started to go to the dogs, and I was now paying him one of my annual visits at his palatial home in California.

"Did I ever tell you of my last trip to the Teton?" he asked, as I continued to gaze contemplatively at the broad lunar disk which slowly detached itself from the horizon and began to swim in the clear evening sky.

"No," I replied, "but I should like to hear about it."

"Or of my last sight of Dr. Syx?"

"Indeed! I did not suppose that you ever saw him after that conference in your mill, when he had to surrender half of the world to you."

"Once only I saw him again," said Hall, with a peculiar intonation.

"Pray go ahead, and tell me the whole story."

My friend lighted a fresh cigar, tipped his chair into a more comfortable position, and began:

"It was about seven years ago. I had long felt an unconquerable desire to have another look at the Teton and the scenes amid which so many strange events in my life had occurred. I thought of sending for you to go with me, but I knew you were abroad much of your time, and I could not be certain of catching you. Finally I decided to go alone. I travelled on horseback by way of the Snake River canyon, and arrived early one morning in Jackson's Hole. I can tell you it was a gloomy place, as barren and deserted as some of those Arabian wadies that you have been describing to me. The railroad had long ago been abandoned, and the site of the military camp could scarcely be recognized. An immense cavity with ragged walls showed where Dr. Syx's mill used to send up its plume of black smoke.

"As I started up the gaunt form of the Teton, whose beetling precipices had been smashed and split by the great explosion, I was seized with a resistless impulse to climb it. I thought I should like to peer off again from that pinnacle which had once formed so fateful a watch-tower for me. Turning my horse loose to graze in the grassy river bottom, and carrying my rope tether along as a possible aid in climbing, I set out for the ascent. I knew I could not get up the precipices on the eastern side, which we were able to master with the aid of our balloon, and so I bore round, when I reached the steepest cliffs, until I was on the southwestern side of the peak, where the climbing was easier.

(Continued on page 381)

The EGGS from LAKE TANGANYIKA

By Curt Siodmak

Crying and screaming, the people fled from the street and crowded into the houses. They couldn't tell where the insect would fall and they were afraid of their heads.

PROFESSOR Meyer-Maier drew a sharp needle out of the cushion, carefully picked up with the pincers the fly lying in front of him and stuck it carefully upon a piece of white paper. He looked over the rim of his glasses, dipped his pen in the ink and wrote under the specimen:

"*Glossina palpalis*, specimen from Tsetsefly River. In the aboriginal language termed *nsi-nsi*. Usually found on river courses and lakes in West Africa. Bearer of the malady Negana (Tse-tse sickness— sleeping sickness.)

He laid down the pen and took up a powerful magnifying glass for a closer examination. "A horrible creature," he murmered, and shivered involuntarily. On each side of the head of the flying horror, there was a monstrous eye surrounded by many sharp lashes and divided up into a hundred thousand flashing facets. An ugly proboscis thickly studded with curved barbs or hooks grew out of the lower side of the head. The wings were small and pointed, the legs armed with thorns, spines and claws. The thorax was muscular, like that of a prize fighter. The abdomen was thin and looked like India rubber. It could take in a great quantity of blood and expand like a balloon. On the whole, the flying horror, resembling a pre-historic flying dragon, was not very pleasant looking—Prof. Meyer-Maier took a pin and transfixed the body of the fly. It seemed to him that a vicious sheen of light emanated from the eyes and that the proboscis rolled up. Quickly he picked up the magnifying glass, but it was an optical illusion—the thing was dead, with all its poison still within its body.

Memories of the Expedition to Africa

WITH a deep sigh he laid aside pincers and magnifying glass and sank into a deep reverie. The clock struck 12, 1-2-3-4-5, counted Professor Meyer-Maier.

In Udjidji, a village on lake Tanganyika, the natives had told him of gigantic flies inhabiting the interior further north. These monsters were three times as big as the giants composing the giant bodyguard of the Prince of Ssuggi, who all had to be of at least standard height. Meyer-Maier laughed over this negro fable, but the negroes were obstinate. They refused to follow him to the northern part of Lake Tanganyika. Even Msu-uru, his black servant, who otherwise made an intelligent impression, trembled with excitement and begged to be left out of the expedition—because there enormous flies and bees were to be found,—that let no man approach. They drank the river dry and guarded the valley of the elephants. "The Valley of the Elephants" was a fabled place where the old pachyderms withdrew to die. "It is inexplicable," soliloquized Meyer-Maier, "that no one ever found a dead elephant."

The clock struck 6-7-8.

WE consider this extraordinary story a classic, and certainly the best scientifiction story so far for 1926.

How large can insects grow? Is there any limit to their size? Frankly, no one knows. We have almost microscopically small flies, and in some of the tropical countries we have some almost as large as the fist. Is it possible to have still larger flies, and could monstrous flies such as are depicted in this story, be bred at some future date? The author of this brilliant tale evidently thinks so.

Anyway, we trust he is mistaken, as we should not like to meet such monsters. The science of entomology presented in this story is excellent, and will arouse your imagination.

The natives had come along on the expedition much against their will. Meyer-Maier had trouble to keep the caravan moving up to the day when he found four great, strange looking eggs, larger than ostrich eggs. The negroes were seized with a panic, half of them deserting in the night, in spite of the great distance from the coast. The other half could only be kept there by tremendous efforts. He had to make up his mind finally, to go back, but he secretly put the eggs he had found into his camping chest to solve their riddle.

Now they were here in his Berlin home, in his work-room. He had not found time as yet to examine them, for he had brought much material home to be worked over.

The clock struck 9-10.

Meyer-Maier kept thinking of the ugly head of the tse-tse fly that he had seen through the magnifying glass. A strange thought occurred to him and made him smile. Suppose the stories of the negroes were true and the giant flies—butterflies and beetles as big as elephants did exist! And suppose that they propagated as flies do!—each one laying eighty million eggs a year! He laughed aloud and pictured to himself how such a creature would stalk through the streets.

A Strange Sound and the Hatching of An Egg

HE broke off suddenly, in the midst of his laughter. A sound reached his ear, an earsplitting buzzing like that of a thousand flies, a deafening hum, as if a swarm of bees were entering the room; it burst out like a blast of wind through the room and then stopped. Meyer-Maier jerked the door open. Nothing. All was quiet.

"I must relax for a while," said he, and opened the window. He turned on the light and threw back the lid of the big chest, which contained the giant eggs. Suddenly he grew pale as death and staggered back. A creature was crawling out, a creature as big as a police dog—a frightful creature, with wings —a muscular body, and six hairy legs with claws. It crept slowly, raised its incandescent head to the light and polished its wings with its hind legs. Faint with fright, Meyer-Maier pressed against the wall with outspread arms. A loud buzzing, — the creature swept across the room, climbed up on the window sill and was gone.

Meyer-Maier came slowly to himself. "My nerves are deceiving me. Did I dream?" he whispered, and dragged himself to the camp-chest. But he became frozen with horror. One egg was broken open. "It breaks out of its shell like a chicken, it does not change into a chrysalis," he thought mechanically. At last his mind cleared and he awoke to the emergency. He sprang to the desk, snatched up his revolver, ran downstairs and out into the street. He saw no trace of the escaped giant insect. Meyer-Maier looked up at the lighted windows of his home. Suddenly the light became dim. "The other eggs" —like a blow came the thought—"the other eggs too

have broken." He raced back up the stairs. A deafening buzzing filled the room. He jerked his door open and fired—once, twice, until the magazine was empty—the room was silent. Through the window he saw three silhouettes sweeping high across the night-sky and disappearing in the direction of the great woods in the West. In the chest there lay the four broken giant eggs. . . . .

A Call for His Colleague

MEYER-MAIER sank upon a chair. "It's against all logic," he thought, and glanced at the empty revolver in his hand. "My delirium has taken wings and crawled out of the egg. What shall I do? Shall I call the police? They will send me to an alienist! Keep quiet about it? Look for the creatures? I'll call up my colleague, Schmidt-Schmitt!" He dragged himself to the telephone and got a connection. Schmidt-Schmitt was at home! "This is Meyer-Maier," sounded a tired voice. "Come over at once!"

"What's the trouble?" asked Schmidt-Schmitt.

"My African giant eggs have burst," lisped Meyer-Maier with a failing voice. "You must come at once!"

"Your nerves are out of order," answered Schmidt-Schmitt. Have you still got the creatures?"

"They've gone," whispered Meyer-Maier,—he thought he would collapse,—"flew out of the window."

"There, there," laughed Schmidt-Schmitt. "Now, we are getting to the truth—of course they aren't there. Anyhow, I'll come over. Meanwhile take a cognac and put on a cold pack."

"Take your car, and say nothing about what I told you."

Professor Meyer-Maier hung up the receiver.

It was incredible. He pressed his hand to his forehead. If the empty shells were not irrefutable evidence, he would have been inclined to think of hallucinations.

He helped himself to some brandy and after the second glass he felt better. "I wish Professor Schmidt-Schmitt would come. He ought to be here by now. He will have an explanation and will help me to get myself in hand again. The day of ghosts and miracles is long past. But why isn't he here? He ought to have come by this time."

Meyer-Maier looked out of the window. A car came tearing through the dark street and stopped with squeaking brakes in front of Meyer-Maier's residence. A form jumped out like an india rubber ball, ran up the steps, burst into Meyer-Maiers' study, and collapsed into a chair.

"How awful," he gasped.

"It seems to me, you are even more excited over it than I," said Professor Meyer-Maier dispiritedly while he watched his shaking friend.

"Absolutely terrible" Professor Schmidt-Schmitt wiped his forehead with a silk handkerchief. "You were not suffering from nerves, you had no hallucinations. Just now I saw a fly-creature as large as a heifer falling upon a horse. The monster grew big and heavy, while the horse collapsed and the fly flew away. I examined the horse. Its veins and arteries were empty. Not a drop of blood was left in its body. The driver fainted with fright and has not come to yet. It is a world catastrophe."

Notifying the Police

"WE must notify the police at once."

A quick telephone connection was obtained. The police Lieutenant in charge himself answered.

"This is Professor Meyer-Maier talking! Please believe what I am going to tell you. I am neither drunk nor crazy. Four poisonous gigantic flies, as large as horses are at large in the city. They must be destroyed at all costs."

"What are you trying to do? Kid me?" the lieutenant came back in an angry voice.

"Believe me—for God's sake," yelled Meyer-Maier, reaching the end of his nervous strength.

"Hold the wire." The Lieutenant turned to the desk of the sergeant. "What is up now?"

"A cab driver has been here who says that his horse was killed by a gigantic bird on Karlstrasse."

"Get the men of the second platoon ready for immediate action" he ordered the sergeant, and turned back to the telephone. "Hello Professor! Are you still there? Please come over as quickly as possible. What you told me is true. One of these giant insects has been seen."

Professor Meyer-Maier hung up. He loaded his revolver and put a Browning pistol into his colleague's hand. "Is your car still downstairs?"

"Yes I took the little limousine."

"Excellent—then the monster cannot attack us." They rushed on through the night.

"What can happen now?" inquired Professor Schmidt-Sshmitt.

"These giant flies may propagate and multiply in the manner of the housefly. And in that case, due to their strength and poisonous qualities" continued Professor Meyer-Maier, "the whole human race will perish in a few weeks. When they crept from the shell they were as large as dogs. They grew to the size of a horse within an hour. God knows what will happen next. Let us hope and pray that we will be able to find and kill the four flies and destroy the eggs which they have laid in the meantime, within fourteen days."

The car came to a stop in front of the Police Station. A policeman armed with steel helmet and hand trench bombs swinging from his belt tore open the limousine door. The lieutenant hastened out and conducted the scientists into the station house.

"Any more news?" inquired Meyer-Maier.

"The West Precinct station just called up. One of their patrolmen saw a giant animal fly over the Teutoburger Forest. Luckily we had war tanks near there which immediately set out in search of the creature."

The telephone-bell rang. The lieutenant rushed to the phone.

"Central Police Station."

"East Station talking. Report comes from Lake Wieler, that a gigantic fly has attacked two motor boats."

"Put small trench mortars on the police-boat and go out on the lake. Shoot when the beast gets near you."

The door of the Station-House opened and the city commissioner entered. "I have just heard some

fabulous stories," he said, and approached the visitors. "Professor Meyer-Maier? Major Pritzel-Wilzell! Can you explain all this?"

"I brought home with me four large eggs from my African expedition, for examination. Tonight these eggs broke open. Four great flies came out—a sort of tse-tse fly, such as is found on Lake Tanganyika. The creatures escaped through the window and we must make every endeavor to kill them at once."

The telephone bell rang as if possessed.

"This is the Central Broadcasting Station. A giant bird has been caught in the high voltage lines. It has fallen down and lies on the street."

"Close the street at once." The major took up the instrument. "Call up the Second Company. Let all four flying companies go off with munition and gasoline for three days. Come with me my friends, we will get at least one of them!"

An armored automobile came tearing along at a frightful speed. "We appreciate your foresight, Major," said Meyer-Maier, as they stepped into the steel-armored machine.

One of the Giant Flies Is Electrocuted

ALTHOUGH it was five o'clock in the morning, the square in front of the broadcasting station was black with people. The police kept a space clear in the center, where monstrously large and ugly, lay the dead giant fly. Its wings were burnt, its proboscis extended, while the legs, with their claws, were drawn up against the body. The abdomen was a great ball, full of bright red liquid. "That is certainly the creature that killed the horse," said Schmidt-Schimitt, and pointed at the thick abdomen. He then walked around the creature. "*Glossina palpalis*. A monstrous tse-tse fly."

"Will you please send the monster to the zoological laboratory?" The major nodded assent. The firemen, prepared for service, pushed poles under the insect and tried to lift it up from the ground. Out of the air came a droning sound. An airplane squadron dropped out of the clouds and again disappeared. A bright body with vibrating wings flew across the sky. The airplanes dropped on it. The noise of the machine-guns started. The bright body fell in a spiral course to the ground. Crying and screaming, the people fled from the street and crowded into the houses. They couldn't tell where the insect would fall and they were afraid of their heads. The street was empty in an instant. The body of the monster fell directly in front of the armored car and lay there, stiff. In its fall it carried away a lot of aerial cable and now it lay on the pavement as if caught in a net, the head torn by the machine gun bullets. It looked like a strange gleaming cactus.

"Take me to my home, Major," groaned Meyer-Maier. "I can't stand it any longer. The excitement is too much for me."

In the Hospital

THE armored car started noisily into motion. Meyer-Maier fell from the seat, senseless, upon the floor of the tonneau. When he came to himself, he lay in a strange bed. His gaze fell upon a bell which swung to and fro above his face. In his head there was a humming like an airplane motor. He made no attempt, even to think. His finger pressed the push-button and he never released it until half-a-dozen attendants came rushing into the room. One figure stood out in dark colors, in the group of white-clad interns. It was his colleague, Schmidt-Schmitt.

"You're awake?" said he, and stepped to his bed. "How are you feeling?"

"My head is buzzing as if there were a swarm of hornets living in it. How many hours have I lain here?"

"Hours?" Schmidt-Schmitt dwelt upon the word. "Today is the fifteenth day that you are lying in Professor Stiebling's sanitorium. It was a difficult case. You always woke up at meal-time and without saying a word, went to sleep again."

"Fifteen days!" cried Meyer-Maier excitedly. "And the insects? Have they been killed?"

"I'll tell you the whole story when you are well again," said Schmidt-Schmitt, quieting him. "Lie as you are, quietly—any excitement may hurt you."

"They must not come into the room!" he screamed out to an excited messenger, who breathlessly pulled the door open.

"Professor! ——" the man was in deadly fear —— "the Central Police station has given out the news that a swarm of giant flies are descending upon the city."

"Barricade all windows at once!"

"You wasted precious time," screamed Meyer-Maier, and jumped out of the bed. "Let me go to my house. I must solve the riddle as to how to get at the insects. Don't touch me," he raved. He snatched a coat from the rack, ran out of the house, and jumped into Schmidt-Schmitt's automobile which stood at the gate, and went like the wind, to his home. The door of his house was ajar. He rushed up four flights and in delirious haste rushed into his workroom. The telephone bell rang.

The Danger Is Over

MEYER-MAIER snatched up the receiver. He got the consoling message from the city police-commissioner: "The danger is over, Professor. Our air-squadron has destroyed the swarm with a cloud of poison-gas. Only two of the insects escaped death. These we have caught in a net and are taking them to the zoological gardens."

"And if they have left eggs behind them?"

"We are going to search the woods systematically and will inject Lysol into any eggs we find. I think that will help," laughed the Major. "Shall I send some of them to you for examination?"

"No," cried Meyer-Maier in fright. "Keep them off my neck."

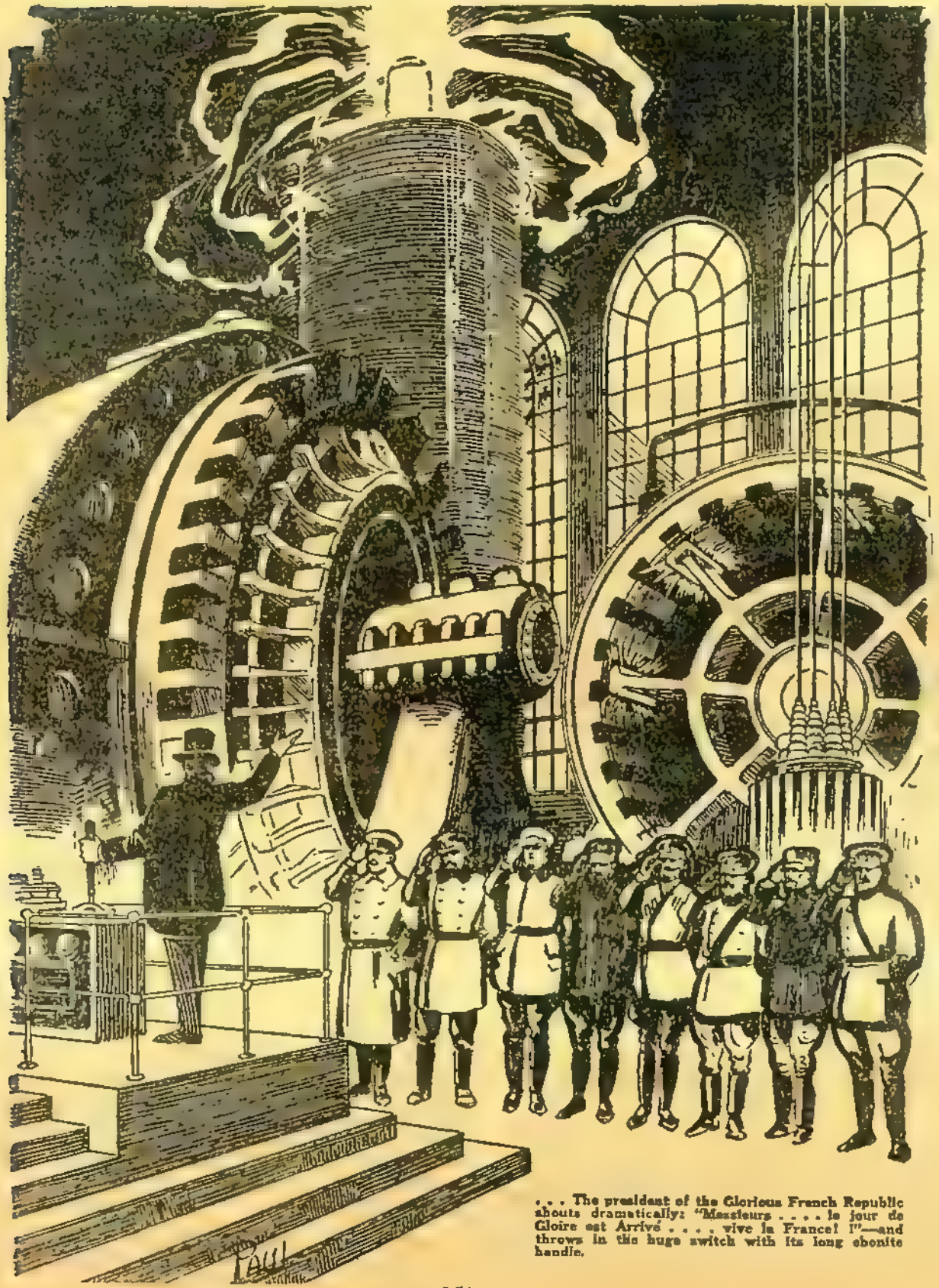
He sat down at his work-table. There seemed a vicious smile on the face of the transfixed dead tse-tse fly. "You frightful ghost," murmured the professor with pallid lips, and threw a book on the insect. His head was in a daze. He tried his best to think clearly. An axiom of science came to him: if the flies are as large as elephants, they can only progagate as fast as elephants do. They can't have a million young ones, but only a few. "I can't be wrong," he murmured. "I'll look up the confirmation."

He took up the telephone and called the city Commissioner. "Major, how many insects were in the swarm?"

(*Continued on page* 384)

The MAGNETIC STORM

By Hugo Gernsback



. . . The president of the Glorious French Republic shouts dramatically: "Messieurs . . . . le jour de Gloire est Arrivé . . . . vive la France! !"—and throws in the huge switch with its long ebonite handle.

"WHY" Sparks had stopped reading the New York *Evening World*: He contemplated his old meerschaum pipe meditatively while with his long and lanky index finger, stained by many acids, he carefully rubbed a long, thin and quivering nose. This was always a sign of deep, concentrated thought of the nose's owner. It also, as a rule, induced the birth of a great idea.

Again, and very slowly he re-read the article, which millions that same day had read casually, without a quiver, let alone, a nose quiver. The newspaper item was simple enough:

> NEW YORK, Aug. 10, 1917.—An electro-magnetic storm of great violence swept over the eastern section of the United States last night. Due to a brilliant Aurora Borealis,—the Northern Lights,—telegraph and long distance telephone, as well as cable communications were interrupted for hours. No telegraphic traffic was possible between New York and points West. It was impossible to work any of the transatlantic cables between 12:15 A. M. and 9:15 A. M., every one of them having "gone dead." The Aurora Borealis disturbance affected all telegraph and telephone lines extending between Chicago and the eastern cities. On telegraph wires of the Postal Telegraph Co. without regular battery being applied at terminal offices, grounded lines showed a potential of 425 volts positive, varying to 225 volts negative; the disturbance continuing between 12:15 A. M. and 9:15 A. M.
>
> At Newark, N. J., in the Broad Street office a Western Union operator was severely shocked, trying to operate the key, while long sparks played about his instruments.

Sparks rose excitedly and began pacing the cement floor of the vast Tesla laboratory, totally oblivious to the fact that he was sucking a cold pipe. The more he paced about, the more excited he became. Finally he flung himself into a chair and began feverishly to make sketches on big white sheets of drawing paper.

"Why" Sparks had been just an ordinary "Bug," an experimenter, when he entered Tesla's great research laboratory at the beginning of the great war in 1914. Tesla liked the keen, red-haired tousled boy, who always seemed to divine your thoughts before you had uttered five words. His clear blue eyes, lying deep in their sockets, sparkled with life and intelligence and what Sparks did not know about electricity was mighty little indeed. I believe there is no electrical book in existence that Sparks had not devoured ravenously in his spare hours, while having lunch or else while in bed, in the small hours of the morning. His thirst for electrical knowledge was unbounded, and he soaked up every bit of information like a sponge. Yes, and he retained it, too. In short, the young prodigy was a living electrical cyclopedia and highly valued by his associates. No wonder Tesla in three short years had made him superintendent of the laboratory.

THIS story was written during the world war, long before the death ray was ever "invented."

It is believed in some quarters that here we have the original germ of the death ray. In fact, the means chosen by the author to bring down enemy airplanes by means of electricity were exploited a number of years later by Grindell Matthews, although he admits today that the death ray was pure fiction. Nevertheless at some future date it will be possible to do just what the author tells us in this story.

Nikola Tesla, who read the original proofs of this story, endorses the idea. He himself was able to burn out electrical amateurs thirteen miles from his famous Colorado power plant, in 1892, when he was also able to light electric lamps at this distance, without wires.

Sparks' First Name

OF course, Sparks' first name was not really "Why." But some one had dubbed him with this sobriquet because of his eternal "But *why* is this,"—"*Why*, why should we not do it this way"—"*Why* do you try to do that?" In short his first word always seemed to be "Why,"—it had to be, in his unending quest of knowledge. And his "Why" was always *very* emphatic, explosive-like, imperative, from which there was no escape.

Ah, yes, his first name. To tell the honest truth, I don't know it. Last year in the spring when I went up to the laboratory, I thought I would find out. So when I finally located the young wonder, behind a bus bar, where he was drawing fat, blue sparks by means of a screwdriver. I told him that I intended to write something about him and his wonderful electrical knowledge. Would he be good enough to give me his *real* first name?

He was watching a big fuse critically, and in an absent-minded manner exploded: *"Why!"* That finished my mission. And for all I know his real name is "Why" Sparks.

But we left Sparks with his drawings, in the laboratory. That was on a certain evening in 1917. To be exact it was about 10 o'clock. At 10:05 Tesla accompanied by two high army officials strolled into the laboratory where Sparks was still feverishly engaged with sketches lying all about him.

Tesla who was working out a certain apparatus for the Government had dropt in late to show Major General McQuire the result of six weeks' labors. The apparatus had been completed that day and the General, a military electrical expert, had come over specially from Washington to see the "thing" work.

But before Tesla had a chance to throw in the switch of the large rotary converter, Sparks had leaped up, and was waving excitedly a large drawing in Tesla's face. He gushed forth a torrent of sentences, and for fully five minutes Tesla and the two Army officials were listening spell-bound to the young inventor. For a minute or two the three men were speechless, looking awe-struck at Sparks, who, having delivered himself of his latest outburst, now became normal again and lit up his still cold pipe.

It was Tesla who first found his voice. "Wonderful, wonderful. Absolutely wonder-ful, Sparks. In a month you will be the most talked of man on this planet. And his idea *is* sound." This to the General. "Absolutely without a flaw. And so simple. Why, oh why! did I not think of it before? Come, let me shake the hand of America's youngest and greatest genius!" Which he did.

There then followed an excited thirty-minute con-

versation with the two army men and an endless long distance talk with the War Department at Washington. Then there was a rush trip to Washington by Tesla and Sparks, conferences at the War Department, and finally a few days later Sparks went to the White House and was presented to the President, who was highly enthusiastic about the model which Sparks and Tesla demonstrated to the head of the Nation. Still later there were certain rush orders from the War Department to the General Electric and Westinghouse Companies for many big, queer machines, and these same machines were shortly . . . But here the Censor bids us an emphatic "Halt." One may not even now divulge certain military information. You appreciate that.

Behind the German Lines

BARON von Unterrichter's flying "Circus" was getting ready to bomb a certain American depot behind the lines. The Americans of late had shot down entirely too many of the Baron's flyers. Only yesterday von der Halberstadt—a German ace himself—and one of von Unterrichter's closest friends had been downed, and killed inside of the German lines. So the Baron was out for blood this sunny morning. As he put it:

*"Verdammte Yankee Schweinehunde,** we will show them who is master of the air hereabouts," shaking his fist at the American lines beyond.

"Sie Müller," this to an orderly.

"Zu Befehl, Herr Leutnant," replied the young orderly as he came on the run and stood at attention, clicking his heels together, hand at his cap.

"Versammlung, sofort," barked the chief, as he hastened Müller off to summon post haste every man of the aerial squadron for the usual conference before the attack.

In less than ten minutes the thirty flyers were standing drawn up at military attention before their chief, forming a half circle about him. Von Unterrichter's instructions were simple enough. This was a reprisal raid; von der Halberstadt's death must be avenged, fearfully avenged. No quarter was to be given.

"Dieses Amerikanische Gesindel!"—here his voice rose to a shrill pitch, "must be taught to respect us, as never before. The orders are to bomb every American base hospital within the sector . . . ."

At this several of the men recoiled involuntarily, which did not escape the keen eye of von Unterrichter, who now incensed to blind fury, by this show of "softheartedness," as he put it, exhorted his men in his harshest possible terms. "And as for their flyers, you must not give quarter. You must not be satisfied with disabling their machines. Kill them! *Schiesst die Lumpen zusammen!* Pump nickel into them, if you see that they may land unharmed"—this in direct violation of all flying etiquette—a thing abhorred by any decent flyer as a rule. It is bad enough to have your machine shot down, but "sitting on a disabled enemy's tail," and pouring machine gun fire into a helpless man, struggling in mid-air,—what was German prestige coming to with such methods. Plainly the men did not like such liberties with their honor, but orders were orders. They grumbled audibly and cast not very encouraging looks at their chief. Even his parting shout: *"Vorwärts—für Gott und Vaterland,"* failed to bring the usual cheers.

*For translation of foreign terms see end of this story.

The German Aerial "Circus"

PROMPTLY on the minute of 10 the fifteen flyers of the "Circus" rose, like a flock of big white sea gulls heading in "V" formation towards the American lines. Von Unterrichter was leading his herd in a big *Fokker*. He was out for blood and he meant to have it. His face was set, his jaws clenched like a vice. Hate was written in large characters over his face. . . . Why didn't these *Dollarjäger* stay home and mind their own business chasing their dollars? What right did they have in this fray, anyway. *"Elendige Schweinebande,"* he spoke out loud, to better vent his overpowering hate.

But where were the Yankee *Flieger* today? The Baron's "Circus" was up one thousand meters and less than a mile away from the American first line trenches, but still no machine in sight, either American or French. Strange. Quite an unheard of occurrence. Afraid? *"Unsinn,"* he muttered to himself, they were not the sort to be afraid. Von Unterrichter knew that. For the first time he felt a vague sort of uneasiness creeping over him. He could not understand. There was not a *Flieger* anywhere in sight. None on the ground either, as he scanned the vast saucer below him through his *Zeiss*. Was it a new trick, was . . .

Before he finished his train of thought, his engine stopped dead. Cursing volubly he made ready to "bank" his machine in order to volplane down behind his own lines. He congratulated himself that his engines had not stopped later while over the enemy's lines, but his pleasure was short-lived. For he suddenly became aware of the fact that there was a supreme quiet reigning all about him. Why did he not hear the loud roar of the other fourteen engines, now that his own engine was quiet? Looking around he perceived with horror that every one of the fourteen machines of the "Circus" had simultaneously "gone dead" and *all of them were now volplaning earthward.*

The "Circus" Descends Disabled

SICK with an unknown terror, von Unterrichter made a clumsy landing in the midst of his other flyers, all of them pale, some shaking, some with a strange animal expression in their eyes. *What unknown, invisible hand had with one stroke disabled the fifteen engines, one thousand meters above the ground?*

"Himmelkreuzdonnerwetter," shrieked von Unterrichter jumping to the ground, near his airdrome. "I . . . I . . . cannot" . . . here his voice broke. For the first time in his life the young Prussian was speechless. He then stamped his foot in a frenzied fury, but finally gave vent to a full round of cursing. At last he collected his senses sufficiently to look for the cause of the mysterious occurrence. It only took five minutes to find it. His mechanician pointed to the magneto.

"Kaput," he said laconically, if not grammatically.

"Auseinander nehmen," commanded the chief.

It took the deft mechanician but a minute to take

the magneto apart, and to withdraw the armature. He gave it one look and with a sickly smile uttered:

"Ausgebrannt, Herr Leutnant." *Herr Leutnant* took the armature into his own hands and inspected it critically. Sure enough it was burnt out, if ever there was a burnt out armature. Perhaps fused would be a better term. The armature was beyond repair, a child could see that. He flung it away and went over to the next nearest flyer. But the mechanic had already located the trouble—in the magneto. Burnt out, too!

Von Unterrichter unutterably sick at heart, aimlessly wandered about the other machines. In each case the result was the same: *Every magneto armature of the fifteen flyers was burnt out*, the wires fused together, all insulation gone!

"Aber so 'was", muttered von Unterrichter, looking about him helplessly. It took fully five minutes before it filtered through his thick skull that this disaster that overtook his "circus" could by no means be a coincidence.

"Verfluchte Amerikaner", he said, "probably a new *Teufelmaschine* of Edison!"

But what would the *Kommando* say to this? Instantly he stiffened as he jumped into a waiting automobile, attached to the airdrome.

"Zum Kommando, schnell", he ordered the driver as he sank back into his seat. He must report this queer business to headquarters at once. The driver cranked the engine, then cranked it some more. Pfut . . . pfut . . . pfut . . . sputtered the engine asthmatic-like, but it did not start. He tried again. Same result.

The Useless Automobile

"DONNERWETTER *nochmal,"* stormed the Baron vexed over the delay, *"was ist denn jetzt los?* why in thunder don't you start you miserable dog? But the engine would not start. The perplexed chauffeur climbed into the seat of the old style car, which still had its faithful spark coils, so necessary to the ignition system. But the spark coil refused to work, although the storage battery was fully charged and all the connections were right. Cautiously he pulled out one of the spark coil units from its box. One look told the story.

"Ausgebrannt, Herr Leutnant," he said weakly, for he had seen the burnt out magneto armatures a few minutes before.

Von Unterrichter, with eyes almost popping out of his head, was struck absolutely speechless for half a minute. *"Heiliger Strohsack"*, he muttered awe-struck, remembering his young sister's favorite expression, whenever something out of the ordinary happened to her. He finally collected himself sufficiently and jumped out of the car.

"Zum Telefon", he muttered to himself. He must report this uncanny occurrence at once to the *Kommando*. Not a second was to be lost. He at last understood that something momentous had happened. He made the airdrome on the run and though it was only 200 yards away he surprised himself at the speed he made. Puffing volubly he arrived at the telephone. He gave the handle several quick turns, grasped the receiver and simultaneously bellowed* into the mouthpiece in front of him:

"Hallo, hallo" . . . but he went no further. The receiver flew from his ear, for there had been a loud clattering, rattling, ear-splitting noise in the instrument that almost burst his eardrum. He made a foolish grimace, as he held his ear with his hand. Cautiously he approached the receiver to within a few inches of his other ear and listened. All was quiet, not a sound. Mechanically he unscrewed the receiver cap and looked at the two bobbins. *They were charred and black.* The telephone was dead.

To the Radio Transmitting Station

THE instrument slipped from his hand and dangling by its red and purple cord went crashing against the wall of the airdrome, while von Unterrichter limply sank into a chair.

Once more he got up and walked out. He must get in touch with his General at all costs. This was becoming too serious. Ah . . . he had it, the field telegraph. There was one at the other end of the building. He went there as fast as his legs could carry him. He opened the door of the little office, but one look sufficed. The young man in charge of the telegraph sat dejected in a corner, a dumb expression in his eyes. Long purple sparks were playing about the instruments on the table. A child could have seen that it was impossible to either send or receive a telegram under such conditions. . . . Ah! an inspiration. . . .

"Dummkopf," he muttered to himself, "Why didn't I think of it before. *Die Funkenstation!* Surely the wireless must work! Ha, ha, there are no wires *there* at least to burn out!"

The radio station was over a kilometer away. He knew it well, for he had flown over it a great many times. To get there quick, that was the question. The *Kommando* was at least eight kilometers to the rear, and he knew he could not make that distance on foot very quickly. Ah, yes, there was a horse somewhere around. The cavalry horse was located soon, and as the young airman walked hurriedly about, troubled as he was, he could not help noticing the listless attitude of every man he passed. Men were whispering in a hushed manner, alarm was plainly written on their faces—the fear or the unknown.

Von Unterrichter jumped on to his horse and galloped in the direction of the field radio station. It did not take him long to reach it, and long before he dismounted he could see the bright blue spark of the transmitting station.

"Gott sei Lob", he uttered to himself as he jumped to the ground, "at least that's working."

Now it so happened that von Unterrichter had been an expert wireless man before the war, and while he did not know a great deal about electricity, he well knew how to send and receive messages.

He ran to the wagon which carried the mobile radio field apparatus and peremptorily ordered the operator in charge away. *"Aber Herr Leutnant"*, expostulated the thus rudely interrupted man, "I tell you . . ."

"Maul halten", thundered von Unterrichter, with which he sat down, clamping the operator's receivers on his own head.

*All German telephones are magneto operated. To call Central you must turn the handle of the ringing magneto.

At the Wireless Key

He pressed the key impulsively, and noted with grim satisfaction that the loud blue spark crashed merrily in the not very up-to-date spark gap.

As he sent out the call mechanically, he wondered vaguely what the matter could be with the government, because it did not even supply a modern, up-to-date *Löschfunkenstrecke*—quenched spark gap—for field use. Things must be pretty bad when the government must economize even a few beggarly pounds of brass, so necessary for a noiseless spark gap.

But he could not give that matter further attention for he had thrown the aerial switch from "sending" to "receiving."

He had strained his ears for a reply from the operator from the *Kommando*, but, as the switch was thrown, instead of a reply there was a loud, constant roar in the receivers, so loud that it was painful. Off came the headgear, while von Unterrichter once more sank into a chair.

He was a pitiful spectacle to look at, the fate of a 20th Century man flung back a hundred years. His eyes roamed idly about till the distant railroad embankment struck his eye. No train was moving. Everything was at a standstill—how could a train move without a telegraph? How could a train be dispatched—there would be a thousand collisions. He turned to the radio operator, who as yet had not grasped the situation in its entirety.

"Nordlicht, nicht wahr, Herr Leutnant?" he began, thinking no doubt that the phenomenon was an ordinary form of Aurora Borealis,—the northern lights,—in other words, a magnetic storm, that would be over soon.

"Dummes Rindsvieh" . . . snapped the *Herr Leutnant*, who knew better by this time. Indeed he was to know still more at once, for while he was speaking there came to his ear a low dull roar, a sound he had heard once before, far back in 1914 when the Germans had retreated very much in a hurry beyond the Marne.

Panic seized him. Yes the sound was unmistakable. The German army once more was in full retreat—no it was a rout—a panic-stricken rabble that made its way back.

Rumors Spread Through the German Ranks

LIKE lightning the news had spread among the men at the front that uncanny things were afoot, that all communications had been annihilated with one stroke, that no orders could be sent or received except by prehistoric couriers, that the *Grosses Kommando* was cut off from the army, and that in short the German army as far as communication was concerned, had suddenly found itself a century back.

For what had happened to von Unterrichter that morning, had happened on a large scale not only to every one along the front, *but all over Germany as well!* Every train, every trolley car, every electric motor or dynamo, every telephone, every telegraph had been put out of commission. With one stroke Germany had been flung back into the days of Napoleon. Every modern industry, every means of traffic—except horse-drawn vehicles—were at a standstill. For days the German retirement went on, till on the fifteenth day, the entire German army had retired behind the natural defenses of the Rhine, the victorious Allies, pressing the fleeing hordes back irresistibly.

And it must have been a bitter pill for the German high-command to swallow when they saw that the Allied fliers were constantly flying behind their own lines and that as the Allies advanced, *their* automobiles and *their* trains seemed to run as well as ever *behind* their own lines. But no German succeeded in flying an aeroplane or in running an automobile. That mysterious force obviously was trained only against them, but was harmless behind the Allied lines. Nor did the Germans find out to this date what caused their undoing.

I cannot, even now, divulge the full details of the scheme of just how the Germans were finally driven across the Rhine. That, of course, is a military secret.

But I am permitted to give an outline of just what happened on that memorable morning, when the German army was flung back into the dark ages.

In Tesla's Laboratory

BUT first we must go back to Tesla's laboratory once more, back to that evening when "Why" Sparks first overwhelmed Tesla and his companions with his idea. This is in part what Sparks said:

"Mr. Tesla! In 1898 while you were making your now historic high-frequency experiments in Colorado with your 300-kilowatt generator, you obtained sparks 100 feet in length. The noise of these sparks was like a roaring Niagara, and these spark discharges were the largest and most wonderful produced by man down to this very day. The Primary coil of your oscillator measured 51 *feet in diameter*, while you used 1100 amperes. The voltage probably was over 20 million. Now then, in your book, *High Frequency Currents*, among other things you state that the current which you produced by means of this mammoth electric oscillator was so terrific that its effect was felt 13 miles away. Although there were no wires between your laboratory and the Colorado Electric Light & Power Co., five miles distant, your *'Wireless' Energy* burnt out several armatures of the large dynamo generators, *simply by long distance induction from your high frequency oscillator*. You subsequently raised such havoc with the Lighting Company's dynamos that you had to modify your experiments, although you were over five miles away from the Lighting Company*

"Now if in 1898, twenty years ago, you could do that, why, WHY cannot we go a step further in 1918, when we have at our command vastly more powerful generators and better machinery. If you can burn out dynamo armatures 13 miles distant with a paltry 300 kilowatts, *why* cannot we burn out every armature within a radius of 500 miles or more?

Sparks' Great Project

"THE primary coil of your oscillator in 1898 was 51 feet in diameter. Why *cannot we build a primary 'coil' from the English channel down to Switzerland, paralleling the*

*The above occurrences as well as the cited experiments and effects of the Tesla currents are actual facts checked by Mr. Tesla himself, who saw the original proofs of this story.—*Editor*.

entire Western front? This is not such a foolish, nor such a big undertaking as you might think. My calculations show that if we were to string highly insulated copper wires one-quarter inch thick on telegraph poles behind the front, the problem would become a simple one.

Ordinary telegraph poles can be used, and each pole is to carry twenty wires. Beginning three feet above the ground, each wire is spaced two feet distant from the next one. These wires run continuous from the sea to Switzerland. Moreover, every ten miles or so we place a huge 3,000 kilowatt generating plant with its necessary spark gaps, condensers, etc. The feed wires from these generating plants then run into the thick wires, strung along the telegraph poles, forming the gigantic Tesla Primary Coil. Of course, you realize that in a scheme of this kind it is not necessary to run the telegraph poles actually parallel with every curve of the actual front. That would be a waste of material. But we will build our line along a huge flat curve which will sometimes come to within one-half mile of the front, and sometimes it will be as much as fifteen miles behind it. The total length of the line I estimate to be about 400 miles. That gives us 40 generating plants or a total power of 120,000 kilowatts! A similar line is built along the Italian front, which is roughly one hundred miles long at present. That gives us another 30,000 kilowatts, bringing the total up to 150,000! Now the important part is to project the resultant force from this huge Tesla primary coil *in one direction only*, namely that facing the enemy. This I find can be readily accomplished by screening the wires on the telegraph poles at the side facing our way as well as by using certain impedance coils. The screen is nothing else but ordinary thin wire netting fastened on a support wire between the telegraph poles. This screen will then act as a sort of electric reflector. So." . . . Sparks demonstrated by means of one of his sketches.

"Everything completed we turn on the high-frequency current into our line from the sea to little Switzerland. Immediately we shoot billions of volts over Germany and Austria, penetrating every corner of the Central empires. *Every closed coil of wire throughout Germany and Austria, be it a dynamo armature, or a telephone receiver coil, will be burnt out, due to the terrific electromotive force set up inductively to our primary current.* In other words every piece of electrical apparatus or machinery *will become the secondary of our Tesla coil, no matter where located.* Moreover the current is to be turned on in the day time only. It is switched off during the night. The night is made use of to advance the telegraph poles over the recaptured land, —new ones can be used with their huge primary coil wires, for I anticipate that the enemy *must* fall back. Turning off the power does not work to our disadvantage, for it is unreasonable to suppose that the Teutons will be able to wind and install new coils and armatures to replace all the millions that were burnt out during the day. Such a thing is impossible. Besides, once we get the Germans moving, it ought to be a simple matter to follow up our advantage, for you must not forget that we will destroy ALL their electrical communications with one stroke. No aeroplane, no automobile, will move throughout the Central States. In other words, we will create a titanic artificial *Magnetic Storm* such as the world has never seen. But its effect will be vastly greater and more disastrous than any natural magnetic storm that ever visited this earth. Nor can the Germans safeguard themselves against this electric storm any more than our telegraph companies can when a real magnetic storm sweeps over the earth. Also, every German telegraph or telegraph line in occupied France and Belgium will be our ally! These insulated metallic lines actually help us to "guide" our energy into the very heart of the enemy's countries. The more lines, the better for us, because all lines act as feed wires for our high frequency electrical torrents. . . ."

At Nomeny Near the Frontier

A FEW kilometers north of Nancy, in the Department of Meurthe et Moselle, there is a little town by the name of Nomeny. It is a progressive, thrifty little French town of chief importance principally for the reason that here for four years during the great war the French army has been nearer to the German frontier than at any other point, with the exception of that small portion of Alsace actually in the hands of the French.

Nomeny in the military sense is in the Toul Sector, which sector early in 1918 was taken over by the Americans. If you happened to go up in a captive balloon near Nomeny you could see the spires of the Metz Cathedral and the great German fortress, but 16 kilometers away, always presuming that the air was clear and you had a good glass.

On a superb warm summer morning there were queer doings at a certain point in the outskirts of Nomeny. All of a sudden this point seemed to have become the center of interest of the entire French, British and American armies. Since dawn the military autos of numerous high Allied officers had been arriving while the gray-blue uniforms of the French officers were forever mixing with the business-like khaki of the British and Americans.

The visitors first gave their attention to the camouflaged, odd-looking telegraph poles which resembled huge harps, with the difference that the wires were running horizontally, the "telegraph" line stretching from one end of the horizon to the other. A few hundred yards back of this line there was an old brewery from which ran twenty thick wires, connecting the brewery with the telegraph poles. To this brewery the high officers next strolled. An inspection here revealed a ponderous 3,000 kilowatt generator purring almost silently. On its shining brass plate was the legend: "Made in U. S. A." There was also a huge wheel with large queer round zinc pieces. Attached to the axis of this wheel was a big electric motor, but it was not running now. There were also dozens of huge glass jars on wooden racks lined against the wall. Ponderous copper cables connected the jars with the huge wheel.

One of the French officers, who, previous to the war, had been an enthusiastic Wireless Amateur, was much interested in the huge wheel and the large glass bottles. "Aha", said he, turning to his questioning American confrère, *"l' éclateur rotatif et les boutcilles de Leyde."*

There was little satisfaction in this, but just then

a red-haired, tousled young man who seemed to be much at home in the brewery, came over and adjusted something on the huge wheel.

"What do you call all of these dofunnies?" our young officer asked of him, pointing at the mysterious objects.

"Rotary spark gap and Leyden jars," was the laconic reply. The officer nodded. Just then there was a big commotion. The door flew open and a French officer standing at attention shouted impressively:

"Le Président de la République!"

The President of France Arrives

INSTANTLY every man stood erect at attention, hand at the cap. A few seconds later and President Poincaré walked in slowly, at his side General Pétain. It was then five minutes to 10.

President Poincaré was introduced to the red-haired, tousled young man whom he addressed as *Monsieur* Sparks. *Monsieur* Sparks speaking a much dilapidated French, managed, however, to explain to his *Excellence* all of the important machinery, thanks to a sleepless night with a French dictionary.

Monsieur Poincaré was much impressed and visibly moved, when a French officer had gone over Sparks' ground, and re-explained the finer details.

The President now takes his stand on an elevated platform near a huge switch which has an ebonite handle about a foot long. He then addresses the distinguished assembly with a short speech, all the while watching a dapper young French officer standing near him, chronometer in hand.

Somewhere a clock begins striking the hour of ten. The President still speaks but finishes a few seconds later. The distinguished assemblage applauds and cheers vociferously, only to be stopped by the dapper young officer who slowly raises his right hand, his eyes glued to the chronometer. Immediate silence prevails, only interrupted by the soft purring of the huge generator. The dapper young officer suddenly sings out:

"Monsieur le Président! A-ten-tion! ALLEZ!!"

The President of the glorious French Republic then shouts dramatically: *"Messieurs . . . le jour de gloire est arrivé . . . VIVE—LA—FRANCE!!"* —and throws in the huge switch with its long ebonite handle.

Instantly the ponderous rotary spark gap begins to revolve with a dizzying speed, while blinding blue-white sparks crash all along the inside circumference with a noise like a hundred cannons set off all at once. The large brewery hall intensifies the ear-splitting racket so much that every one is compelled to close his ears with his hands.

Quickly stepping outside the party arrives just in time to see fifteen German airplanes volplaning down and disappearing behind the German lines. A French aerial officer who had observed the German airplanes, drops his glass, steps over to the President, salutes smartly and says impressively:

"Le 'cirque' du Baron d'Unterrichter! Ils sont hors de combat!"

Hors de combat is correct. Von Unterrichter was not to fly again for many a week.

We look around to tell the glad news to General Pétain, but the latter has disappeared into a low brick building where he now sits surrounded by his staff, poring over military maps ornamented with many vari-colored pencil marks, as well as little brightly-colored pin-flags. Telephone and telegraph instruments are all about the room.

The Enemy in Retreat

AGAIN the President shakes hands with *Monsieur* Sparks, congratulating him on his achievement. Luncheon is then served in the former office of the brewery, gayly bedecked with the Allied flags along the walls. But even here, far from the titanic rotary spark gap, its crashing sparks are audible. Looking through the window we see a wonderful sight. Although it is broad daylight, the entire queer telegraph line is entirely enveloped in a huge violet spray of electric sparks. It is as if "heat-lightning" were playing continuously about the whole line. No one may venture within fifty feet of the line. It would mean instant death by this man-made lightning.

Luncheon is soon over and more speeches are made. Suddenly the door flings open and General Petain steps in. One look at his remarkable features, and all talk stops as if by magic. He crosses the room towards the President, salutes and says in a calm voice, though his eyes betray his deep emotion:

"Monsieur le Président, toute l'armée Allemande est en retraite!!"

And so it was. The greatest and final retreat of the Kaiser's "invincible" hordes was in full swing towards the Rhine.

More congratulations are to be offered to Sparks. A medal, . . . Heavens, where is that young man? But Sparks has slipped over to his machines and is standing in front of the noisy "thunder and lightning" wheel eyeing it enthusiastically.

"Why, oh WHY, do they call you *éclateur!*" he says. "Spark Gap is good enough for me!" "Oh, boy!! But you aren't doing a thing to those *Germins!*"

Translation of German and French Terms Used in This Story.

GERMAN

Verdammte Yankee Schweinehunde: Dammed Yankee Pig-Dogs!
Sie, Müller: You, Müller!
Zu Befehl, Herr Leutnant: At your orders, Lieutenant!
Versammlung, sofort: Assembly, at once!
Dieses Amerikanische Gesindel: This American rabble!
Schiesst die Lumpen zusammen: Shoot the ragamuffins together!
Vorwärts für Gott und Vaterland: Onward, for God and Fatherland!
Dollarjäger: Dollar Chasers.
Elendige Schweinebande: Miserable band of pigs.
Unsinn: Nonsense.
Flieger: Flyer (aeroplane).
Himmelkreuzdonnerwetter: A popular German "cuss" word. Literally it means "sky-cross-thunder." English equivalent is "A thousand thunders."
Kaput: German slang, equivalent to our slang "busted."
Auseinander nehmen: Take it apart!
Ausgebrannt: Burnt-out.
Aber so 'was: Such a thing (of all things).
Verfluchte Amerikaner: Cursed Americans.
Teufelmaschine: Diabolic machine.
Zum Kommando, schnell: Quick, to Headquarters!
Donnerwetter nochmal: By all thunders!
Was ist denn jetzt los? What's up now?
Heiliger Strohsack: Holy bag-of-straw; equivalent to "Holy Gee."
Dummkopf: Blockhead.
Die Funkenstation: The Radio Station.
Gott sei Lob: God be thanked.
Aber, Herr Leutnant: But, Lieutenant!
Maul halten: Shut up.
Löschfunkenstrecke: Quenched Spark Gap.
Nordlicht, nicht wahr!: Northern lights, is it not?
Dummes Rindsvieh: Stupid piece of cattle.
Grosses Kommando: General Headquarters.

(*Continued on page* 384)

The SPHINX

By Edgar Allan Poe

Author of "Mesmeric Revelation," "The Case of M. Valdemar," etc.

. . . I perceived the huge jaws at the extremity of the proboscis suddenly expand themselves, and from them there proceeded a sound so loud and so expressive of woe that it struck upon my nerves like a knell . . . and I fell at once, fainting, to the floor.

DURING the dread reign of the cholera in New York, I had accepted the invitation of a relative to spend a fortnight with him in the retirement of his cottage orné on the banks of the Hudson. We had here around us all the ordinary means of summer amusement; and what with rambling in the woods, sketching, boating, fishing, bathing, music and books, we should have passed the time pleasantly enough, but for the fearful intelligence which reached us every morning from the populous city. Not a day elapsed which did not bring us news of the decease of some acquaintance. Then, as the fatality increased, we learned to expect daily the loss of some friend. At length we trembled at the approach of every messenger. The very air from the South seemed to us redolent with death. That palsying thought, indeed, took entire possession of my soul. I could neither speak, think, nor dream of anything else. My host was of a less excitable temperament, and, although greatly depressed in spirits, exerted himself to sustain my own. His richly philosophical intellect was not at any time affected by unrealities. To the substances of terror he was sufficiently alive, but of its shadows he had no apprehension.

THIS little-known classic by Edgar Allan Poe is chiefly interesting because it once more shows us how our senses are sometimes fooled and how nature often contrives to play some huge joke on us.

In this story Poe takes as his vehicle the science of optics, and with his usual facile pen he manages to excite your interest to a high pitch. The denouement is as simple as it is startling.

His endeavors to arouse me from the condition of abnormal gloom into which I had fallen were frustrated, in great measure, by certain volumes which I had found in his library. These were of a character to force into germination whatever seeds of hereditary superstation lay latent in my bosom.

I had been reading these books without his knowledge, and thus he was often at a loss to account for the forcible impression which had been made upon my fancy.

The Popular Belief in Omens Discussed

A FAVORITE topic with me was the popular belief in omens — a belief which at this one epoch of my life, I was almost seriously disposed to defend. On this subject we had long and animated discussions; he maintaining the utter groundlessness of faith in such matters; I contending that a popular sentiment arising with absolute spontaneity—that is to say, without apparent traces of suggestions—had in itself the unmistakable elements of truth, and was entitled to much respect.

The fact is that, soon after my arrival at the cottage, there had occurred to myself an incident so entirely inexplicable, and which had in it so much of the portentous character, that I might well have been excused for regarding it an omen. It appalled, and at the same time so confounded and bewildered me, that many days elapsed before I could make up my mind to communicate the circumstances to my friend.

An Awful Apparition

NEAR the close of an exceedingly warm day, I was sitting, book in hand, at an open window commanding, through a long vista of the river banks, a view of a distant hill, the face of which nearest my position had been denuded, by what is termed a landslide, of the principal portion of its trees. My thoughts had been long wandering from the volume before me to the gloom and desolation of the neighboring city. Uplifting my eyes from the page, they fell upon the naked face of the hill, and upon an object—upon some living monster of hideous conformation,—which very rapidly made its way from the summit to the bottom, disappearing finally in the dense forest below. As this creature first came in sight, I doubted my own sanity, or at least the evidence of my own eyes; and many minutes passed before I succeeded in convincing myself that I was neither mad nor in a dream. Yet when I describe the monster (which I distinctly saw, and calmly surveyed through the whole period of its progress), my readers, I fear, will feel more difficulty in being convinced of these points than even I did myself.

Estimating the size of the creature by comparison with the diameter of the large trees near which it passed—the few giants of the forest which had escaped the fury of the landslide—I concluded it to be far larger than any ship of the line in existence. I say "ship of the line," because the shape of the monster suggested the idea; the hull of one of our seventy-fours might convey a very tolerable conception of the general outline. The mouth of the animal was situated at the extremity of a proboscis some sixty or seventy feet in length, and about as thick as the body of an ordinary elephant. Near the root of this trunk was an immense quantity of black, shaggy hair—more than could have been supplied by the coats of a score of buffaloes; and, projecting from his hair downwardly and laterally, sprang two gleaming tusks not unlike those of the wild boar, but of infinitely greater dimension. Extending forward, parallel with the proboscis, and on each side of it, was a gigantic staff, thirty or forty feet in length, formed seemingly of pure crystal, and in shape a perfect prism;—it reflected in the most gorgeous manner the rays of the declining sun. The trunk was fashioned like a wedge with the apex to the earth. From it there were outspread two pairs of wings—each wing nearly one hundred yards in length—one pair being placed above the other, and all thickly covered with metal scales; each scale apparently some ten or twelve feet in diameter. I observed that the upper and lower tiers of wings were connected by a strong chain. But the chief peculiarity of this horrible thing was the representation of a Death's Head, which covered nearly the whole surface of its breast, and which was as accurately traced in glaring white, upon the dark ground of the body, as if it had been there carefully designed by an artist. While I regarded this animal, and more especially the appearance on its breast, with a feeling of horror and awe—with a sentiment of forthcoming evil, which I found it impossible to quell by any effort of the reason—I perceived the huge jaws at the extremity of the proboscis suddenly expand themselves, and from them there proceeded a sound so loud and so expressive of woe that it struck upon my nerves like a knell, and, as the monster disappeared at the foot of the hill, I fell at once, fainting, to the floor.

Upon recovering, my first impulse of course was to inform my friend of what I had seen and heard—and I can scarcely explain what feeling of repugnance it was, which, in the end, operated to prevent me.

Again Terrorized by the Apparition Reappearing

AT length, one evening, some three or four days after the occurrence, we were sitting together in the room in which I had seen the apparition—I occupying the same seat at the same window, and he lounging on a sofa near at hand. The association of the place and time impelled me to give him an account of the phenomenon. He heard me to the end—at first laughed heartily, and then lapsed into an excessively grave demeanor, as if my insanity was a thing beyond suspicion. At this instant I again had a distinct view of the monster to which, with a shout of absolute terror, I now directed his attention. He looked eagerly, but maintained that he saw nothing, although I designated minutely the course of the creature as it made its way down the naked face of the hill.

I was now immeasurably alarmed, for I considered the vision either as an omen of my death, or, worse, as the forerunner of an attack of mania. I threw myself passionately back in my chair, and for some moments buried my face in my hands. When I uncovered my eyes, the apparition was no longer visible.

My host, however, had in some degree resumed the calmness of his demeanor, and questioned me very rigorously in respect to the conformation of the visionary creature. When I had fully satisfied him on this head he sighed deeply, as if relieved of some intolerable burden, and went on to talk, with what I thought a cruel calmness, of various points of speculative philosophy, which had heretofore formed a subject of discussion between us. I re-

member his insisting very especially (among other things) upon the idea that the principal source of error in all human investigations lay in the liability of the understanding to under-rate or to over-value the importance of an object, through mere misadmeasurement of its propinquity. "To estimate properly, for example," he said, "the influence to be exercised on mankind at large by the thorough diffusion of Democracy, the distance of the epoch at which such diffusion may possibly be accomplished should not fail to form an item in the estimate. Yet can you tell me one writer on the subject of government, who has ever thought this particular branch of the subject worthy of discussion at all?"

Apparition Identified and the Occurrences Explained

HE here paused for a moment, stepped to a bookcase, and brought forth one of the ordinary synopses of Natural History. Requesting me then to exchange seats with him that he might the better distinguish the fine print of the volume, he took my armchair at the window, and, opening the book, resumed his discourse very much in the same tone as before.

"But for your exceeding minuteness," he said, "in describing the monster, I might never had had it in my power to demonstrate to you what it was. In the first place, let me read to you a schoolboy account of the genus Sphinx, of the family Crepuscularia, of the order Lepidoptera, of the class of Insecta—or insects. The account runs thus:

"'Four membranous wings covered with little colored scales of a metallic appearance; mouth forming a rolled proboscis, produced by an elongation of the jaws, upon the sides of which are found the rudiments of mandibles and downy palpi; the inferior wings retained to the superior by a stiff hair; antennae in the form of an elongated club, prismatic; abdomen pointed. The Death's-headed Sphinx has occasioned much terror among the vulgar, at times, by the melancholy kind of cry which it utters, and the insignia of death which it wears upon its corselet.'"

He here closed the book and leaned forward in the chair, placing himself accurately in the position which I had occupied at the moment of beholding "the monster."

"Ah, here it is!" he presently exclaimed—"It is re-ascending the face of the hill, and a very remarkable looking creature I admit it to be. Still, it is by no means so large or so distant as you imagined it; for the fact is that, as it wriggles its way up this thread, which some spider has wrought along the window sash, I find it to be about the sixteenth of an inch in its extreme length, and also about the sixteenth of an inch distant from the pupil of my eye."

NOTE: *Acheronta Atropos* of the Sphingidae family of moths . . . habitat Europe and Africa.—ED.

THE END

Improvements

YOU will note two big improvements in this issue of AMAZING STORIES. We have had some suggestions as to the quality of the paper used, and heeding the requests, we are beginning with this issue to use a much better grade of paper. As time goes on, still better paper will be used.

Then the other day some one on the Pacific Coast wrote in and complained that, much as he liked AMAZING STORIES, it was rather difficult to read it because you had to hold the magazine in your hand with a vice-like grip. The usual magazines, practically without exception, are staple-bound, which binding clamps the edge of the magazine so tightly that when you lay it on the table in front of you it will not stay open.

We investigated the complaint, and found it to be most reasonable. We therefore took immediate ways and means to do away with the old-fashioned binding, and you now hold in your hand a magazine bound with the so-called "Perfect" binding. You will note that you can lay this magazine down flat and it will stay open. Nevertheless, the pages will not come off easily unless you tear them out forcibly.

The "Perfect" binding process is a very much more expensive method of binding, and only a few concerns in the country have the machinery necessary to do the "Perfect" binding. The machine itself is most interesting. It costs, by the way, over $30,000.00.

The process is as follows: When all the pages and all the signatures are gathered, the machine grasps them and cuts off the entire back of the magazine. This means that all the pages are loose. The pages that have been thus treated advance in the machine until they meet a glueing apparatus, whereby hot glue under pressure is forced against the cut pages. The glue, as will be noticed, if a copy is carefully inspected, impregnates the pages for a small distance. Traveling on, the magazine is then encased in a piece of stiff gauze, after which the cover is glued on. The magazine is then automatically compressed, and is soon ready for the freight car.

All of this goes on with lightning-like rapidity, so quickly, in fact, that the eye can hardly follow the magazine through the various processes, until a completely bound issue emerges from this latest of wonders. The "Perfect" binder that binds AMAZING STORIES, is capable of turning out 2500 copies per hour.

This process is, of course, more expensive than the old type of stapling, but we believe that the readers of AMAZING STORIES are entitled to the latest technical advances in magazine publishing and the conveniences thereby brought about.

A TRIP to the CENTER of the EARTH

By Jules Verne

Author—"Around the World in 80 Days", "Off on a Comet", etc., etc.

"There is no longer any water, Harry," he answered, "but a kind of lava paste, which is heaving us up, in company with itself, to the mouth of the crater." The temperature was becoming utterly insupportable. But for the extraordinary rapidity of our ascent we should have been stifled.

What Went Before

PROFESSOR HARDWIGG, chemist, philosopher, mineralogist, etc., while delighting in a rare old book by a famous Iceland author, comes upon a mysterious parchment containing a secret message. The professor and his nephew Harry, have deciphered it: "Descend into the crater of the Yokul of Sneffels, which the shade of Scartaris covers before the kalends of July, audacious traveler, and you will reach the center of the earth. I did it.—Arne Saknussem."

The professor and Harry (in the case of the latter much against his will and better judgment) start for Iceland and Mount Sneffels, with the good wishes of Gretchen, the professor's ward and Harry's fiancée. In Iceland, they very fortunately obtain the services of Hans, a true Icelandic guide—calm, stolid and dependable. After numerous adventures and many interesting encounters and difficult climbing, they reach Mount Sneffels and descend into its crater. They go deeper and deeper, lowering themselves into the bigger shafts by means of sturdy ropes doubled over the rocks above.

Once now, they were reassured of the validity of the mysterious message when they noticed the inscription "Arne Saknussem" on some rocks. Also, they see all kinds of rock formations, gypsum, stalactites and stalagmites, etc. In their desperate search for a spring, they hear and tap a tremendous torrent of hot water, which for a time also acts as a guide to them in their descent. Then, to cap it all, Harry strays from his companions and in his attempt to rejoin them gets hopelessly lost. When he has about given up all hope of finding his companions or of being found, he hears voices and discovers a "whispering gallery." Thus they are able to communicate with each other and after some calculation, they effect a reunion.

They continue on their way until they come to an enormous expanse of water—the Central Sea. Hans succeeds in building a raft and they start off for another shore. But they meet some huge sea monsters among other dangers and after many days on the water cannot see any signs of a shore. And then by means of a terrific hurricane and storm they are very rudely brought back to a point on the same side from which they started. There were lots of time lost, but they are not discouraged. While Hans is repairing the raft, Professor Hardwigg and Harry go off on a tour of further discovery and they are not disappointed. New wonders unfold themselves at every turn.

A Trip to the Center of the Earth

JULES VERNE

Part III

CHAPTER XXXVI

What Is It?

FOR a long and weary hour we tramped over this great bed of bones. We advanced regardless of everything, drawn on by ardent curiosity. What other marvels did this great cavern contain—what other wondrous treasures for the scientific man? My eyes were quite prepared for any number of surprises, my imagination lived in expectation of something new and wonderful.

The borders of the great Central Ocean had for some time disappeared behind the hills that were scattered over the ground occupied by the plain of bones. The imprudent and enthusiastic Professor, who did not care whether he lost himself or not, hurried me forward. We advanced silently, bathed in waves of electric fluid. The light illumined equally the sides of every hill and rock. The appearance presented was that of a tropical country at mid-day in summer—in the midst of the equatorial regions and under the vertical rays of the sun. The rocks, the distant mountains, some confused masses of far-off forests, assumed a weird and mysterious aspect under this equal distribution of the luminous fluid! We resembled to a certain extent, the mysterious personage in one of Hoffmann's fantastic tales—the man who lost his shadow.*

JULES VERNE'S great romance is concluded in this issue. It is possible that some of our readers may find fault with the vehicle that Verne chose to bring back the travelers from the earth's interior. But it should be remembered that back they had to come, and we know of no better method than the one which Verne chose. At least it is logical, although the chances are that our heroes would not have survived such an ordeal. But we should not be too critical on such points, for the story certainly is and remains one of the great classics of scientifiction. Some of the most breathless and hair-raising episodes occur in the closing chapters.

After we had walked about a mile farther, we came to the edge of a vast forest, not, however, one of the vast mushroom forests we had discovered near Port Gretchen. It was the glorious and wild vegetation of the tertiary period, in all its superb magnificence. Huge palms, of a species now unknown, superb palmacites—a genus of fossil palms from the coal formation—pines, yews, cypress, and conifers or cone-bearing trees, the whole bound together by an inextricable and complicated mass of creeping plants. A beautiful carpet of mosses and ferns grew beneath the trees. Pleasant brooks murmured beneath umbrageous boughs, little worthy of this name, for no shade did they give. Upon their borders grew small tree-like shrubs, such as are seen in the hot countries on our own inhabited globe.

The one thing wanted to these plants, these shrubs, these trees—was color! Forever deprived of the vivifying warmth of the sun, they were vapid and colorless. All shade was lost in one uniform tint, of a brown and faded character. The leaves were wholly devoid of green, and the flowers, so

*Error. The author was Adelbert van Chamisso.

numerous during the tertiary period which gave them birth, were without color and without perfume, something like paper discolored by long exposure to the atmosphere.

A Herd of Mastodons

MY uncle ventured beneath the gigantic groves. I followed him, though not without a certain amount of apprehension. Since nature had shown herself capable of producing such stupendous vegetable productions, why might we not meet with animals as large, and therefore dangerous.

Suddenly I stopped short and restrained my uncle. The extreme diffuseness of the light enabled me to see the smallest objects in the distant copse. I thought I saw—no, I really did see with my own eyes,—immense, gigantic animals moving about under the mighty trees. Yes, they were truly gigantic animals, a whole herd of mastodons, not fossils, but living.

Yes, I could see these enormous elephants, whose trunks were tearing down large boughs, and working in and out the trees like a legion of serpents. I could hear the sounds of the mighty tusks uprooting huge trees! The boughs crackled, and whole masses of leaves and green branches went down the capacious throats of these terrible monsters!

That wondrous dream, when I saw the ante-historical times revivified, when the tetiary and quarternary periods passed before me, was now realized! And there we were alone, far down in the bowels of the earth, at the mercy of its ferocious inhabitants!

My uncle paused, full of wonder and astonishment. "Come," he said at last, when his first surprise was over, "come along, my boy, and let us see them nearer."

"No," replied I, restraining his efforts to drag me forward, "we are wholly without arms. What should we do in the midst of that flock of gigantic quadrupeds? Come away, uncle, I implore you. No human creature can with impunity brave the ferocious anger of these monsters."

"No human creature," said my uncle, suddenly lowering his voice to a mysterious whisper, "you are mistaken my dear Harry. Look! look yonder! It seems to me that I behold a human being—a being like ourselves—a man!"

A Dream of Prehistoric Ages

I LOOKED, shrugging my shoulders, and decided to push incredulity to its very last limits. But whatever might have been my wish, I was compelled to yield to the weight of ocular demonstration. Yes—not more than a quarter of a mile off, leaning against the trunk of an enormous tree, was a human being—a Proteus of these subterranean regions, a new son of Neptune keeping this innumerable herd of mastodons. *Immanis pecoris custos, immanior ipse!* (The keeper of gigantic cattle, himself a giant!) Yes—it was no longer a fossil whose corpse we had raised from the ground in the great cemetery, but a giant capable of guiding and driving these prodigious monsters. His height was above twelve feet. His head, as big as the head of a buffalo, was lost in a mane of matted hair. It was indeed a huge mane, like those which belonged to the elephants of the earlier ages of the world. In his hand was a branch of a tree, which served as a crook for this antediluvian shepherd.

We remained profoundly still, speechless with surprise. But we might at any moment be seen by him. Nothing remained for us but instant flight. "Come, come!" I cried, dragging my uncle along; and, for the first time, he made no resistance to my wishes.

A quarter of an hour later we were far away from that terrible monster! Now that I think of the matter calmly, and reflect upon it dispassionately; now that months, years, have passed since this strange and unnatural adventure befell us—what am I to think, what am I to believe?

No, it is utterly impossible! Our ears must have deceived us, and our eyes have cheated us! we have not seen what we believed we had seen. No human being could by any possibility have existed in that subterranean world! No generation of men could inhabit the lower caverns of the globe without taking note of those who peopled the surface, without communication with them. It was folly, folly, folly! nothing else!

I am rather inclined to admit the existence of some animal resembling in structure the human race—of some monkey of the first geological epochs, like that discovered by M. Lartet in the ossiferous deposits of Sansan. But this animal, or being, whichsoever it was, surpassed in height all things known to modern science. Never mind. However unlikely it may be, it might have been a monkey—but a man, a living man, and with him a whole generation of gigantic animals, buried in the entrails of the earth—it was too monstrous to be believed!

CHAPTER XXXVII

The Mysterious Dagger

DURING this time, we had left the bright and transparent forest far behind us. We were mute with astonishment, overcome by a kind of feeling which was next door to apathy. We kept running in spite of ourselves. It was a perfect flight, which resembled one of those horrible sensations we sometimes meet with in our dreams.

Instinctively we made our way towards the Central Sea, and I cannot now tell what wild thoughts passed through my mind, nor of what follies I might have been guilty, but for a very serious preoccupation which brought me back to practical life. Though I was aware that we were treading on a soil quite new to us, I, every now and then noticed certain aggregation of rock, the shape of which forcibly reminded me of those near Port Gretchen.

This confirmed, moreover, the indications of the compass and our extraordinary and unlooked-for, as well as involuntary, return to the north of this great Central Sea. It was so like our starting point, that I could scarcely doubt the reality of our position. Streams and cascades, fell in hundreds over the numerous projections of the rocks. I actually thought I could see our faithful and monotonous Hans and the wonderful grotto in which I have come back to life after my tremendous fall.

Then, as we advanced still farther, the position of the cliffs, the appearance of a stream, the unexpected profile of a rock, would throw me again into a state of bewildering doubt. After some time, I explained my state of mental indecision to my uncle. He confessed to a similar feeling of hesitation. He was totally unable to make up his mind in the midst of this extraordinary but uniform panorama.

"There can be no doubt," I insisted, "that we have not landed exactly at the place whence we first took our departure; but the tempest has brought us above our starting point. I think, therefore, that if we follow the coast we shall once more find Port Gretchen."

"In that case," cried my uncle, "it is useless to continue our exploration. The very best thing we can do is to make our way back to the raft. Are you quite sure, Harry, that you are not mistaken?"

"It is difficult," was my reply, "to come to any decision, for all these rocks are exactly alike. There is no marked difference between them. At the same time, the impression on my mind is, that I recognize the promontory at the foot of which our worthy Hans constructed the raft. We are, I am nearly convinced, near the little port; if this is not it." I added, carefully examining a creek which appeared singularly familiar to my mind.

"My dear Harry—if this were the case, we should find traces of our own footsteps, some signs of our passage; and I can really see nothing to indicate our having passed this way."

A Rusty Dagger is Found Deep in the Earth

"BUT I see something," I cried, in an impetuous tone of voice, as I rushed forward and eagerly picked up something which shone in the sand under my feet.

"What is it?" cried the astonished and bewildered Professor.

"This," was my reply. And I handed to my startled relative a rusty dagger, of singular shape.

"What made you bring with you so useless a weapon?" he exclaimed. "It was needlessly hampering yourself."

"I bring it?—it is quite new to me. I never saw it before—are you sure it is not out of your collection?"

"Not that I know of," said the Professor, puzzled. "I have no recollection of the circumstance. It was never my property."

"This is very extraordinary," I said, musing over the novel and singular incident.

"Not at all. There is a very simple explanation, Harry. The Icelanders are known to keep up the use of these antiquated weapons, and this must have belonged to Hans, who has let it fall without knowing it."

I shook my head. That dagger had never been in the possession of the pacific and taciturn Hans. I knew him and his habits too well. "What can it be—unless it be the weapon of some antediluvian warrior," I continued, "of some living man, a contemporary of that mighty shepherd from whom we have just escaped? But no—mystery upon mystery—this is no weapon of the stone epoch, nor even of the bronze period. It is made of excellent steel ——"

It Is Saknussem's Dagger

ERE I could finish my sentence, my uncle stopped me short from entering upon a whole train of theories, and spoke in his most cold and decided tone of voice. "Calm yourself, my dear boy, and endeavor to use your reason. This weapon, upon which we have fallen so unexpectedly, is a true *dague*, one of those worn by gentlemen in their belts during the sixteenth century. Its use was to give the *coup de grâce*, the final blow, to the foe who would not surrender. It is clearly of Spanish workmanship. It belongs neither to you, nor to me, nor the eiderdown hunter, nor to any of the living beings who may still exist so marvelously in the interior of the earth."

"What can you mean, uncle?" I said, now lost in a host of surmises.

"Look closely at it," he continued; "these jagged edges were never made by the resistance of human blood and bone. The blade is covered with a regular coating of iron-mould and rust, which is not a day old, not a year old not a century old, but much more——"

The Professor began to get quite excited, according to custom, and was allowing himself to be carried away by his fertile imagination. I could have said something. He stopped me. "Harry," he cried, "we are now on the verge of a great discovery. This blade of a dagger you have so marvelously discovered, after being abandoned upon the sand for more than a hundred, two hundred, even three hundred years, has been indented by someone endeavoring to carve an inscription on these rocks."

"But this poignard never got here of itself," I exclaimed, "it could not have twisted itself. Someone, therefore, must have preceded us upon the shores of this extraordinary sea."

"Yes, a man."

"But what man has been sufficiently desperate to do such a thing."

"A man who has somewhere written his name with this very dagger—a man who has endeavored once more to indicate the right road to the interior of the earth. Let us look around, my boy. You know not the importance of your singular and happy discovery."

Prodigiously interested, we walked along the wall of rock, examining the smallest fissures, which might finally expand into the much wished for gully or shaft. We at last reached a spot where the shore became extremely narrow. The sea almost bathed the foot of the rocks, which were here very lofty and steep. There was scarcely a path wider than two yards at any point. At last, under a huge overhanging rock, we discovered the entrance of a dark and gloomy tunnel.

There, on a square tablet of granite, which had been smoothed by rubbing it with another stone, we could see two mysterious, and much worn letters, the two initials of the bold and extraordinary traveler who had preceded us on our adventurous journey.

"A. S.," cried my uncle; "you see I was right. Arne Saknussem, always Arne Saknussem!"

CHAPTER XXXVIII

No Outlet—Blasting the Rock

EVER since the commencement of our marvelous journey, I had experienced many surprises, had suffered from many illusions. I thought that I was case-hardened against all surprises and could neither see nor hear anything to amaze me again. However, when I saw these two letters, which had been engraved three hundred years before, I stood fixed in an attitude of mute surprise.

Not only was there the signature of the learned and enterprising alchemist written in the rock, but I held in my hand the identical instrument with which he had laboriously engraved it. It was impossible, without showing an amount of incredulity scarcely becoming a sane man, to deny the existence of the traveler, and the reality of that voyage which I believed all along to have been a myth—the mystification of some fertile brain.

While these reflections were passing through my mind, my uncle, the Professor, gave way to an access of feverish and poetical excitement. "Wonderful and glorious Genius, great Saknussem," he cried, "you have omitted no resourse to show to other mortals the way into the interior of our mighty globe, and your fellow-creatures can find the trail left by your illustrious footsteps, three hundred years ago. You have been careful to secure for others the contemplation of these wonders and marvels of creation. Your name engraved at every important stage of your glorious journey, leads the hopeful traveler direct to the mighty discovery to which you devoted such energy and courage. The audacious traveler, who shall follow your footsteps to the last, will doubtless find your initials engraved with your own hand upon the center of the earth. *I* will be that audacious traveler—*I*, too, will sign my name upon the very same spot, upon the central granite stone of this wondrous work of the Creator. But in justice to your devotion, and to your being the first to indicate the road, let this Cape, seen by you upon the shores of this sea discovered by you, be called for all time, Cape Saknussem."

This is what I heard, and I began to be roused to the pitch of enthusiasm indicated by those words. A fierce excitement roused me. I forgot everything. The dangers of the voyage, and the perils of the return journey, were now as nothing! What another man had done in ages past, could, I felt be done again; I was determined to do it myself, and now nothing that man had accomplished appeared to me impossible. "Forward—forward," I cried in a burst of genuine and hearty enthusiasm.

Where the Raft Brought Them

I HAD already started in the direction of the somber and gloomy gallery, when the Professor stopped me; he, the man so rash and hasty, he, the man so easily roused to the highest pitch of enthusiasm, checked me, and asked me to be patient and show more calm. "Let us return to our good friend, Hans," he said; "we will then bring the raft down to this place."

I must say that though I at once yielded to my uncle's request it was not without dissatisfaction, and I hastened along the rocks of that wonderful coast. "Do you know, my dear uncle," I said, as we walked along, "that we have been singularly helped by a concurrence of circumstances, right up to this very moment."

"So you begin to see it, do you, Harry?" said the Professor, with a smile.

"Doubtless," I responded, "and strangely enough, even the tempest has been the means of putting us on the right road. Blessings on the tempest! It brought us safely back to the very spot from which fine weather would have driven us forever. Supposing we had succeeded in reaching the southern and distant shores of this extraordinary sea, what would have become of us? The name of Saknussem would never have appeared to us, and at this moment we should have been cast away upon an inhospitable coast, probably without an outlet."

"Yes, Harry, my boy, there is certainly something providential in that wandering at the mercy of wind and waves towards the south; we have come back exactly north; and what is better still, we fall upon this great discovery. There is something in it which is far beyond my comprehension. The coincidence is unheard-of, marvelous!"

"What matter! It is not our duty to explain facts, but to make the best possible use of them."

"Doubtless, my boy; but if you will allow me ——" said the really-delighted Professor.

A Discussion of Geography

"EXCUSE me, sir, but I see exactly how it will be; we shall take the northern route; we shall pass under the northern regions of Europe, under Sweden, under Russia, under Siberia, and who knows here—instead of burying ourselves under the burning plains and deserts of Africa, or beneath the mighty waves of the ocean; and that is all, at this stage of our journey, that I care to know. Let us advance, and Heaven will be our guide!"

"Yes, Harry, you are right, quite right; all is for the best. Let us abandon this horizontal sea, which could never have led to anything satisfactory. We shall descend, descend, and everlastingly descend. Do you know, my dear boy, that to reach the interior of the earth we have only five thousand miles to travel!"

"Bah!" I cried, carried away by a burst of enthusiasm, "the distance is scarcely worth speaking about. The thing is to make a start."

My wild, mad, and incoherent speeches continued until we rejoined our patient and phlegmatic guide. All was, we found, prepared for an immediate departure. There was not a single parcel out of its proper place. We all took up our posts on the raft, and the sail being hoisted, Hans received his directions, and guided the frail barque towards Cape Saknussem, as we had definitely named it.

The wind was very unfavorable to a craft that was unable to sail close to the wind. We were continually reduced to pushing ourselves forward by means of poles. On several occasions the rocks ran far out into deep water and we were compelled to make a long round. At last, after three long and weary hours of navigation, that is to say, about six o'clock in the evening, we found a place at which we could land.

I jumped on shore first. In my present state of excitement and enthusiasm, I was always first. My

uncle and the Icelander followed. The voyage from the port to this point of the sea had by no means calmed me. It had rather produced the opposite effect. I even proposed to burn our vessel, that is to destroy our raft, in order to completely cut off our retreat. But my uncle sternly opposed this wild project. I began to think him particularly lukewarm and unenthusiastic. "At any rate, my dear uncle," I said, "let us start without delay."

"Yes, my boy, I am quite as eager to do so as you can be. But, in the first place, let us examine this mysterious gallery, in order to find if we shall need to prepare and mend our ladders."

My uncle now began to see to the efficacy of our Ruhmkorf's coil, which would doubtless soon be needed, the raft, securely fastened to a rock, was left alone. The opening into the new gallery was not twenty paces distant from the spot. Our little troop, with myself at the head, advanced.

Their Journey Blocked by a Great Rock

THE orifice, which was almost circular, presented a diameter of about five feet, the chamber tunnel was cut in the living rock, and coated on the inside by the different material which had once passed through it in a state of fusion. The lower part was about level with the water, so that we were able to penetrate to the interior without difficulty. We followed an almost horizontal direction when, at the end of about a dozen paces, our further advance was checked by the interposition of an enormous block of granite rock.

"Accursed stone!" I cried, furiously, on perceiving that we were stopped by what seemed an insurmountable obstacle.

In vain we looked to the right, in vain we looked to the left, in vain examined it above and below. There existed no passage, no sign of any other tunnel. I experienced the most bitter and painful disappointment. So enraged was I that I would not admit the reality of any obstacle. I stooped to my knees, I leaned under the mass of stone. No hope, no interstice. I then looked above. The same barrier of granite! Hans, with the lamp, examined the sides of the tunnel in every direction. But all in vain! It was necessary to renounce all hope of passing through.

I had seated myself upon the ground. My uncle walked angrily and hopelessly up and down. He was evidently desperate. "But," I cried after some moments' thought, "what about Arne Saknussem?"

"You are right," replied my uncle, "he can never have been checked by a lump of rock."

"No, ten thousand times no," I cried, with extreme vivacity. "This huge lump of rock, in consequence of some concussion, has in some unexpected way closed up the passage. Many and many years have passed away since the return of Saknussem, and the fall of this huge block of granite. Is it not quite evident that this gallery was formerly the outlet for the pent up lava in the interior of the earth, and that these eruptive matters then circulated freely? Look at these recent fissures in the granite roof, it is evidently formed of pieces of enormous stone, placed here as if by the hand of a giant, who had worked to make a strong and substantial arch. One day, after an unusually heavy shock, the vast rock which stands in our way, fell through to a level with the soil and has barred our further progress. We are right, then, in thinking that this is an unexpected obstacle with which Saknussem did not meet, and if we do not upset it in some way, we are unworthy of following in the footsteps of the great discoverer, and incapable of finding our way to the Center of the Earth!"

In this wild way I addressed my uncle. The zeal of the Professor, his earnest longing for success, had become part and parcel of my being. I was forgot the past. I utterly despised the future. Nothing existed for me upon the surface of this spheroid in the bosom of which I was engulfed, no towns, no country, no Hamburg, no Königstrasse, not even my poor Gretchen, who by this time would believe me utterly lost in the interior of the earth!

"Well," cried by uncle, roused to enthusiasm by my words, "let us go to work with pick-axes, with crowbars, with anything that comes to hand—but down with these terrible walls."

"It is far too tough and too big to be destroyed by a pick-ax or crowbar," I replied.

"What then?"

"As I said, it is useless to think of overcoming such a difficulty by means of ordinary tools."

"What then?"

"What else but gunpowder, a subterranean mine? Let us blow up the obstacle that stands in our way!"

"Gunpowder!"

"Yes, all we have to do is to get rid of this paltry obstacle."

"To work, Hans, to work!" cried the Professor. The Icelander went back to the raft, and soon returned with a keg of powder, with which he began to dig a hole in the rock, which was to serve as a mine. It was by no means a short task. It was necessary for our purpose to make a cavity large enough to hold fifty pounds of fulminating gun cotton, the explosive power of which is four times as great as that of ordinary gunpowder.

I had now roused myself to an almost miraculous state of excitement. While Hans was at work, I actively assisted my uncle to prepare a long wick, made from damp gunpowder, the mass of which we finally enclosed in a bag of linen. "We are bound to go through," I cried enthusiastically.

"We are bound to go through," responded the Professor, tapping me on the back.

At midnight, our work as miners was completely finished, the charge of fulminating cotton was thrust into the hollow, and the match, which we had made of considerable length, was ready. A spark was now sufficient to ignite this formidable engine, and to blow the rock to atoms!

"We will now rest until to-morrow."

It was absolutely necessary to resign myself to my fate, and to consent to wait for the explosion for six weary hours!

CHAPTER XXXIX

The Explosion and Its Results

THE next day, which was the twenty-seventh of August, was a date to be marked in our wondrous subterranean journey.

I never think of it even now, but I shudder with horror. My heart beats wildly at the very memory of that awful day. From this time forward, our

reason, our judgment, our human ingenuity, had nothing to do with the course of events. We were about to become the playthings of the great phenomena of the earth!

At six o'clock we were all up and ready. The dreaded moment was arriving when we were about to seek an opening into the interior of the earth by means of gun-powder. What would be the consequences of breaking through the crust of the earth.

I begged that it might be my duty to set fire to the mine. I looked upon it as an honor. This task once performed, I could rejoin my friends upon the raft, which had not been unloaded. As soon as we were all ready, we were to sail away to some distance to avoid the consequences of the explosion, the effects of which would certainly not be concentrated in the interior of the earth. The slow match we calculated to burn for about ten minutes, more or less, before it reached the chamber in which the great body of powder was confined. I should therefore have plenty of time to reach the raft and put off to a safe distance.

After a hearty repast, my uncle and the hunter-guide embarked on board the raft, while I remained alone upon the desolate shore. I was provided with a lantern which was to enable me to set fire to the wick of the infernal machine. "Go, my boy," said my uncle, "and Heaven be with you. But come back as soon as you can. I shall be all impatience."

"Be easy on that matter," I replied, "there is no fear of my delaying on the road." Having said this, I advanced toward the opening of the sombre gallery. My heart beat wildly. I opened my lantern and seized the extremity of the wick.

The Professor, who was looking on, held his chronometer in his hand. "Are you ready?" cried he.

"Quite ready."

"Well, then, fire away!" I hastened to put the light to the wick, which crackled and sparkled, hissing and spitting like a serpent; then, running as fast as I could, I returned to the shore.

"Get on board my lad, and you, Hans, shove off!" cried my uncle. By a vigorous application of his pole Hans sent us flying over the water. The raft was quite twenty fathoms distant.

It was a moment of palpitating interest, of deep anxiety. My uncle, the Professor, never took his eyes off the chronometer. "Only five minutes more," he said in a low tone, "only four, only three."

My pulse went a hundred to the minute. I could hear my heart beating.

"Only two, one! Now, then, mountains of granite, crumble beneath the power of man!"

The Explosion

WHAT happened after that? As to the terrific roar of the explosion, I do not think I heard it. But the form of the rocks completely changed in my eyes—they seemed to be drawn aside like a curtain. I saw fathomless, a bottomless abyss, which yawned beneath the turgid waves. The sea, which seemed suddenly to have gone mad, then became one great mountainous mass, upon the top of which the raft rose perpendicularly.

We were all thrown down. The light gave place to the most profound obscurity. Then I felt all solid support give way not to my feet, but to the raft itself. I thought it was going bodily down a tremendous well. I tried to speak, to question my uncle. Nothing could be heard but the roaring of the mighty waves. We clung together in utter silence.

Despite the awful darkness, despite the noise, the surprise, the emotion, I thoroughly understood what had happened. Beyond the rock which had been blown up, there existed a mighty abyss. The explosion had caused a kind of earthquake in this soil, broken by fissures and rents. The gulf, thus suddenly thrown open, was about to swallow the inland sea, which, transformed into a mighty torrent, was dragging us with it. One only idea filled my mind. We were utterly and completely lost!

One hour, two hours—what more I cannot say, passed in this manner. We sat close together, elbow touching elbow, knee touching knee! We held one another's hands not to be thrown off the raft. We were subjected to the most violent shocks, whenever our sole dependence, a frail wooden raft, struck against the rocky sides of the channel. Fortunately for us, these concussions became less and less frequent, which made me fancy that the gallery was getting wider and wider. There could be no doubt that we had chanced upon the road once followed by Saknussem, but instead of going down in a proper manner, we had, through our own imprudence, drawn a whole sea with us!

These ideas presented themselves to my mind in a very vague and obscure manner. I felt rather than reasoned. I put my ideas together only confusedly, while spinning along like a man going down a waterfall. To judge by the air which, as it were, whipped my face, we must have been rushing at a perfectly lightning rate.

To attempt under these circumstances to light a torch was simply impossible, and the last remains of our electric machine, of our Ruhmkorff's coil, had been destroyed during the fearful explosion. I was therefore very much confused to see at last a bright light shining close to me. The calm countenance of the guide seemed to gleam upon me. The clever and patient hunter had succeeded in lighting the lantern; and though, in the keen and thorough draught, the flame flickered and vacillated and was very nearly put out, it served partially to dissipate the awful obscurity.

The gallery into which we had entered was very wide. I was, therefore, quite right in that part of my conjecture. The insufficient light did not allow us to see both of the walls at the same time. The slope of waters, which was carrying us away, was far greater than that of the most rapid river. The whole surface of the stream seemed to be composed of liquid arrows, darted forward with extreme violence and power. I can give no idea of the impression it made upon me.

All Instruments Lost, Except the Compass and Chronometer

THE raft, at times, caught in certain whirlpools, and rushed forward, yet turned on itself all the time. How it did not upset I shall never be able to understand. When it approached the sides of the gallery, I took care to throw upon them the light of the lantern, and I was able to

judge of the rapidity of motion by looking at the projecting masses of rock, which as soon as seen were again invisible. I believe we were going at a rate of not less than a hundred miles an hour.

My uncle and I looked at one another with wild and haggard eyes; we clung convulsively to the stump of the mast, which, at the moment when the catastrophe took place, had snapped short off. We turned our backs as much as possible to the wind, in order not to be stifled by a rapidity of motion which nothing human could face and live.

And still the long monotonous hours went on. The situation did not change in the least, though a discovery I suddenly made seemed to complicate it very much. When we had slightly recovered our equilibrium, I proceeded to examine our cargo. I then made the unsatisfactory discovery that the greater part of it had utterly disappeared. I became alarmed, and determined to discover what were our resources. My heart beat at the idea, but it was absolutely necessary to know on what we had to depend. With this in view, I took the lantern and looked around.

Of all our former collection of nautical and philosophical instruments there remained only the chronometer and the compass. The ladders and ropes were reduced to a small piece of rope fastened to the stump of the mast. Not a pickax, not a crowbar, not a hammer, and, far worse than all, no food —not enough for one day!

This discovery was a prelude to a certain and horrible death. Seated gloomily on the raft, clasping the stump of the mast mechanically, I thought of all I had read as to sufferings from starvation. I remembered everything that history had taught me on the subject, and I shuddered at the remembrance of the agonies to be endured. Maddened at the prospect, I persuaded myself that I must be mistaken. I examined the cracks in the raft; I poked between the joints and beams; I examined every possible hole and corner. The result was—simply nothing! Our stock of provisions consisted of nothing but a piece of dry meat and some soaked and half-mouldy biscuits.

I gazed around me scared and frightened. I could not understand the awful truth. And yet of what consequence was it in regard to any new danger? Supposing that we had had provisions for months, and even for years, how could we ever get out of the awful abyss into which we were being hurled by the irresistible torrent we had let loose? Why should we trouble ourselves about the sufferings and tortures to be endured from hunger, when death stared us in the face under so many other swifter and perhaps even more horrid forms?

An Alarming Ascent Through a Great Shaft

I HAD the greatest mind to reveal all to my uncle, to explain to him the extraordinary and wretched position to which we were reduced, and in order that, between the two, we might make a calculation as to the exact space of time which remained for us to live. It was, it appeared to me, the only thing to be done. But I had the courage to hold my tongue, to gnaw at my entrails like the Spartan boy. I wished to leave him all his coolness.

At this moment, the light of the lantern slowly fell, and at last went out! The wick had wholly burnt to an end. The obscurity became absolute. It was no longer possible to see through the impenetrable darkness! There was one torch left, but it was impossible to keep it alight. Then, like a child, I shut my eyes, that I might not see the darkness.

After a great lapse of time, the rapidity of our journey increased. I could feel it by the rush of air upon my face. The slope of the waters was excessive. I began to feel that we were no longer going down a slope; we were falling. I felt as one does in a dream, going down bodily—falling; falling; falling!

I felt that the hands of my uncle and Hans were vigorously clasping my arms. Suddenly, after a lapse of time scarcely appreciable, I felt something like a shock. The raft had not struck a hard body, but had suddenly been checked in its course. A waterspout, a liquid column of water, fell upon us. I was suffocating. I was being drowned. Still the sudden inundation did not last. In a few seconds I felt myself once more able to breathe. My uncle and Hans pressed my arms, and the raft carried us all three away.

CHAPTER XL

The Ape Gigans

IT is difficult for me to determine what was the the real time, but I should suppose, by after calculation, that it must have been ten at night.

I lay in a stupor, a half dream, during which I saw visions of astounding character. Monsters of the deep were side by side with the mighty elephantine shepherd. Gigantic fish and animals formed strange conjunctions. It seemed in my vision that the raft took a sudden turn, whirled round; entered another tunnel; this time illumined in a most singular manner. The roof was formed of porous stalactite, through which a moon-lit vapor appeared to pass, casting its brilliant light upon our gaunt and haggard figures. The light increased as we advanced, while the roof ascended; until at last, we were once more in a kind of water cavern, the lofty dome of which disappeared in a luminous cloud! My uncle and the guide moved as men in a dream. I was afraid to waken them, knowing the danger of such a sudden start. I seated myself beside them to watch.

As I did so, I became aware of something moving in the distance, which at once fascinated my eyes. It was floating, apparently, upon the surface of the water, advancing by means of what at first appeared paddles. I looked with glaring eyes. One glance told me that it was something monstrous.

But what? It was the great *Shark Crocodile* of the early writers on geology. About the size of an ordinary whale, with hideous jaws and two gigantic eyes, it advanced. Its eyes fixed on me with terrible sternness. Some indefinite warning told me that it had marked me for its own.

I attempted to rise—to escape, no matter where, but my knees shook under me; my limbs trembled violently; I almost lost my senses. And still the mighty monster advanced. My uncle and the guide made no effort to save themselves. With a strange noise, like none other I had ever heard, the beast came on. His jaws were at least seven feet apart,

and his distended mouth looked large enough to have swallowed a boatful of men.

We were about ten feet distant, when I discovered that much as his body resembled that of a crocodile, his mouth was wholly that of a shark. His twofold nature now became apparent. To snatch us up at mouthful it was necessary for him to turn on his back, which motion necessarily caused his legs to kick up helplessly in the air. I actually laughed even in the very jaws of death!

But next minute, with a wild cry, I darted away into the interior of the cavern, leaving my unhappy comrades to their fate! This cavern was deep and dreary. After about a hundred yards, I paused and looked around. The whole floor, composed of sand and malachite, was strewn with bones, freshly gnawed bones of reptiles and fish, with a mixture of mamalia. My very soul grew sick as my body shuddered with horror. I had truly, according to the old proverb, fallen out of the frying-pan into the fire. Some beast larger and more ferocious even than the Shark-Crocodile inhabited this den.

What could I do? The mouth of the cave was guarded by one ferocious monster, the interior was inhabited by something too hideaus to contemplate. Flight was impossible! Suddenly a groaning, as of fifty bears in a fight, fell upon my ears—hisses, spitting, moaning, hideous to hear—and then I saw—

A Dreadful Dream of the Anti-Diluvian Gorilla

NEVER, were ages to pass over my head, shall I forget the horrible apparition. It was the Ape Gigans, the anti-diluvian Gorilla! fourteen feet high, covered with coarse hair, of a blackish brown, it advanced. Its arms were as long as its body, while its legs were prodigious. It had thick, long, and sharply-pointed teeth—like a mammoth saw. It struck its breast as it came on smelling and sniffing, reminding me of the stories we read in our early childhood of giants who ate the flesh of men and little boys.

Suddenly it stopped. My heart beat wildly, for I was conscious that, somehow or other, the fearful monster had smelt me out and was peering about with his hideous eyes to try and discover my whereabouts. I gave myself up for lost. No hope of safety or escape seemed to remain.

At this moment, just as my eyes appeared to close in death, there came a strange noise from the entrance of the cave; and turning, the Gorilla evidently recognized some enemy more worthy his prodigious size and strength. It was the huge Shark-Crocodile, which perhaps having disposed of my friends, was coming in search of further prey.

The Gorilla placed himself on the defensive, and clutching a bone some seven or eight feet in length, a perfect club, aimed a deadly blow at the hideous beast, which reared upwards and fell with all its weight upon its adversary. A terrible combat ensued. The struggle was awful and ferocious. I did not wait to witness the result. Regarding myself as the object of contention, I determined to remove from the presence of the victor. I slid down from my hiding-place, reached the ground, and gliding against the wall, strove to gain the open mouth of the cavern. But I had not taken many steps when the fearful clamor ceased, to be followed by a mumbling and groaning which appeared to be indicative of victory.

I looked back and saw the huge ape, gory with blood, coming after me with glaring eyes, with dilated nostrils that gave forth two columns of heated vapor. I could feel his hot and fetid breath on my neck; and with a horrid jump—awoke from my nightmare sleep.

Yes—it was all a dream. I was still on the raft with my uncle and the guide.

The relief was not instantaneous, for under the influence of the hideous nightmare my senses had become numbed. After a while, however, my feelings were tranquilized. The first of my perceptions which returned in full force was that of hearing. I listened with acute and attentive ears. All was still as death. All I comprehended was silence. To the roaring of the waters, which had filled the gallery with awful reverberations, succeeded perfect peace.

After some little time my uncle spoke, in a low and scarcely audible tone—"Harry, boy, where are you?"

"I am here," was my faint rejoinder.

"Well, don't you see what has happened? We are going upwards."

"My dear uncle, what can you mean?" was my half delirious reply.

"Yes, I tell you we are ascending rapidly. Our downward journey is quite checked."

The Ascent Continues

I HELD out my hand, and, after some little difficulty, succeeded in touching the wall. My hand was in an instant covered with blood. The skin was torn from the flesh. We were ascending with extraordinary rapidity.

"The torch—the torch!" cried the Professor, wildly; "it must be lighted." Hans, the guide, after many vain efforts, at last succeeded in lighting it, and the flame, having now nothing to prevent its burning, shed a tolerably clear light. We were enabled to form an approximate idea of the truth.

"It is just as I thought," said my uncle, after a moment or two of silent attention. "We are in a narrow well about four fathoms square. The waters of the great inland sea, having reached the bottom of the gulf, are now forcing themselves up the mighty shaft. As a natural consequence, we are being cast up on the summit of the waters."

"That I can see," was my lugubrious reply; "but where will this shaft end, and to what fall are we likely to be exposed?"

"Of that I am as ignorant as yourself. All I know is, that we should be prepared for the worst. We are going up at a fearfully rapid rate. As far as I can judge, we are ascending at the rate of two fathoms a second, of a hundred and twenty fathoms a minute, or rather more than three and a half leagues an hour. At this rate, our fate will soon be a matter of certainty."

"No doubt of it," was my reply. "The great concern I have now, however, is to know whether this shaft has any issue. It may end in a granite roof—in which case we shall be suffocated by compressed

air, or dashed to atoms against the top. I fancy, already, that the air is beginning to be close and condensed. I have a difficulty in breathing." This might have been fancy, or it might have been the effect of our rapid motion, but I certainly felt a great oppression of the chest.

"Harry," said the Professor, "I do believe that the situation is to a certain extent desperate. There remain, however, many chances of ultimate safety, and I have, in my own mind, been revolving them during your heavy but agitated sleep. I have come to this logical conclusion—whereas we may at any moment perish, so at any moment we may be saved! We need, therefore, to prepare ourselves for whatever may turn up in the great chapter of accidents."

"But what would you have us do?" I cried; "are we not utterly helpless?"

"No! While there is life there is hope. At all events, there is one thing we can do—eat, and thus obtain strength to face victory or death."

As he spoke, I looked at my uncle with a haggard glance. I had put off the fatal communication as long as possible. It was now forced upon me, and I must tell him the truth. Still I hesitated. "Eat," I said, in a deprecating tone as if there were no hurry.

"Yes, and at once. I feel like a starving prisoner," he said, rubbing his yellow and shivering hands together. And, turning round to the guide, he spoke some hearty, cheering words, as I judged from his tone, in Danish. Hans shook his head in a terribly significant manner. I tried to look unconcerned.

The Provisions Gone

"WHAT!" cried the Professor, "do you mean to say that all our provisions are lost?"

"Yes," was my lowly spoken reply, as I held out something in my hand, "this morsel of dried meat is all that remains for us three."

My uncle gazed at me as if he could not fully appreciate the meaning of my words. The blow seemed to stun him by its severity. I allowed him to reflect for some moments.

"Well," said I, after a short pause, "what do you think now? Is there any chance of our escaping from our horrible subterranean dangers? Are we not doomed to perish in the great hollows of the Center of the Earth?"

But my pertinent questions brought no answer. My uncle either heard me not, or appeared not to do so. And in this way a whole hour passed. Neither of us cared to speak. For myself, I began to feel the most fearful and devouring hunger. My companions, doubtless, felt the same horrible tortures, but neither of them would touch the wretched morsel of meat that remained. It lay there a last remnant of all our great preparations for the mad and senseless journey!

I looked back, with wonderment, to my own folly. Fully was I aware that, despite his enthusiasm, and the ever-to-be hated scroll of Saknussemm, my uncle should never have started on his perilous voyage. What memories of the happy past, what previsions of the horrible future now filled my brain!

CHAPTER XLI

Hunger

HUNGER, prolonged, is temporary madness! The brain is at work without its required food, and the most fantastic notions fill the mind. Hitherto I had never known what hunger really meant. I was likely to understand it now only too well.

After dreaming for some time, and thinking of this and other matters, I once more looked around me. We were still ascending with fearful rapidity. Every now and then the air appeared to check our respiration as it does that of aeronauts when the ascension of the balloon is too rapid. But if they feel a degree of cold in proportion to the elevation they attain in the atmosphere, we experienced quite a contrary effect. The heat began to increase in a most threatening and exceptional manner. I cannot tell exactly the mean, but I think it must have reached 122 degrees of Fahrenheit.

What was the meaning of this extraordinary change in the temperature? As far as we had hitherto gone, facts had proved the theories of Davy and of Lidenbrock to be correct. Until now, all the peculiar conditions of refractory rocks, of electricity, of magnetism, had modified the general laws of nature, and had created for us a moderate temperature, for the theory of the central fire, remained, in my eyes, the only explainable one.

Were we, then, going to reach a position in which these phenomena were to be carried out in all their rigor, and in which the heat would reduce the rocks to a state of fusion? Such was my not unnatural fear, and I did not conceal the fact from my uncle. My way of doing so might be cold and heartless, but I could not help it. "If we are not drowned, or smashed into pancakes, and if we do not die of starvation, we have the satisfaction of knowing that we must be burned alive."

My uncle, in presence of this brusque attack, simply shrugged his shoulders, and resumed his reflections—whatever they might be.

An hour passed away, and except that there was a slight increase in the temperature no incident modified the situation. My uncle at last, of his own accord, broke silence. "Well, Harry, my boy," he said, in a cheerful way, "we must make up our minds."

"Make up our minds to what?" I asked, in considerable surprise.

"Well—to something. We must at whatever risk recruit our physical strength. If we make the fatal mistake of husbanding our little remnant of food, we may probably prolong our wretched existence a few hours—but we shall remain weak to the end."

"Yes," I growled, "to the end. That, however, will not keep us long waiting."

"Well, only let a chance of safety present itself,—only allow that a moment of action be necessary,—where shall we find the means of action if we allow ourselves to be reduced to physical weakness by inanition?"

"When this piece of meat is devoured, uncle, what hope will there remain unto us?"

"None, my dear Harry, none. But will it do you any good to devour it with your eyes? You appear

to me to reason like one without will or decision, like a being without energy."

While There is Life There is Hope

"THEN," cried I, exasperated to a degree which is scarcely to be explained, "you do not mean to tell me—that you—that you—have not lost all hope."

"Certainly not," replied the Professor, with consummate coolness.

"You mean to tell me, uncle, that we shall get out of this monstrous subterranean shaft?"

"While there is life there is hope. I beg to assert, Harry, that as long as a man's heart beats, as long as a man's flesh quivers, I do not allow that a being gifted with thought and will can allow himself to despair."

What a resolution! The man placed in a position like that we occupied must have been very brave to speak like this. "Well," I cried, "what do you mean to do?"

"Eat what remains of the food we have in our hands; let us swallow the last crumb. It will be, heaven willing, our last repast. Well, never mind—instead of being exhausted skeletons, we shall be men."

"True," muttered I in a despairing tone, "let us take our fill."

"We must," replied my uncle, with a deep sigh—"call it what you will." My uncle took a piece of the meat that remained, and some crusts of biscuit which had escaped the wreck. He divided the whole into three parts. Each had one pound of food to last him as long as he remained in the interior of the earth.

Each now acted in accordance with his own private character. My uncle, the Professor, ate greedily, but evidently without appetite, eating simply from some mechanical motion. I put the food inside my lips, and hungry as I was, chewed my morsel without pleasure, and without satisfaction. Hans the guide, just as if he had been eider-down hunting, swallowed every mouthful, as though it were a usual affair. He looked like a man equally prepared to enjoy superfluity or total want. Hans, in all probability, was no more used to starvation than ourselves, but his hardy Icelandic nature had prepared him for many sufferings. As long as he received his three rix-dollars every Saturday night, he was prepared for anything. The fact was, Hans never troubled himself about much except his money. He had undertaken to serve a certain man at so much per week, and no matter what evils befell his employer or himself, he never found fault or grumbled, so long as his wages were duly paid.

Suddenly my uncle roused himself. He had seen a smile on the face of our guide. I could not make it out. "What is the matter?" said my uncle.

"Schiedam," said the guide, producing a bottle of this precious fluid.

We drank. My uncle and myself will own to our dying day that hence we derived strength to exist until the last bitter moment. That precious bottle of Hollands was in reality only half-full; but, under the circumstances, it was nectar. The worthy Professor swallowed about half a pint and did not seem able to drink any more. "*Fortraffig*," said Hans, swallowing nearly all that was left.

"Excellent—very good," said my uncle, with as much gusto as if he had just left the steps of the club at Hamburg.

I began to feel as if there were still one gleam of hope. Now all thought of the future vanished! We had consumed our last ounce of food, and it was five o'clock in the morning!

CHAPTER XLII

The Volcanic Shaft

MAN'S constitution is so peculiar, that his health is purely a negative matter. No sooner is the rage of hunger appeased, than it becomes difficult to comprehend the meaning of starvation. It is only when you suffer that you really understand. As to anyone who has not endured privation having any notion of the matter, it is simply absurd. With us, after a long fast, some mouthfuls of bread and meat, a little mouldy biscuit and salt beef triumphed over all our previous saturnine thoughts.

Nevertheless, after this repast each gave way to his own reflections. I wondered what were those of Hans—the man of the extreme north (who was yet gifted with the fatalistic resignation of Oriental character. But the utmost stretch of the imagination would not allow me to realize the truth. As for my individual self, my thoughts had ceased to be anything but memories of the past, and were all connected with that upper world which I never should have left. I saw it all now, the beautiful house in the Konigstrasse, my poor Gretchen, the good Martha; they all passed before my mind like visions of the past. Every time any of the lugubrious groanings which were to be distinguished in the hollows around fell upon my ears, I fancied I heard the distant murmur of the great cities above my head.

As for my uncle, always thinking of his science, he examined the nature of the shaft by means of a torch. He closely examined the different strata one above the other, in order to recognize his situation by geological theory. This calculation, or rather this estimation, could by no means be anything but approximate. But a learned man, a philosopher, is nothing if not a philosopher, when he keeps his ideas calm and collected; and certainly the Professor possessed this quality to perfection.

I heard him, as I sat in silence, murmuring words of geological science. As I understood his object and his meaning, I could not but interest myself despite my preoccupation in that terrible hour. "Eruptive granite," he said to himself, "we are still in the primitive epoch. But we are going up—going up, still going up. But who knows? Who knows?"

Then he still hoped. He felt along the vertical sides of the shaft with his hand, and some few minutes later he would go on again in the following style—"This is gneiss. This micaschistes, silex, mineral. Good again; this is the epoch of transition, at all events, we are close to them—and then, and then——"

What could the Professor mean? Could he, by any conceivable means, measure the thickness of the crust of the earth suspended above our heads? Did he possess any possible means of making any approximation to this calculation? No. The man-

ometer was wanting, and no summary estimation could take the place of it.

The Temperature Rises—They Are Floating on Lava

AS we progressed, the temperature increased in the most extraordinary degree, and I began to feel as if I were bathed in a hot and burning atmosphere. Never before had I felt anything like it. I could only compare it to the hot vapor from an iron foundry, when the liquid iron is in a state of ebullition and runs over. By degrees, and one after the other, Harry, my uncle, and myself had taken off our coats and waistcoats. They were unbearable. Even the slightest garment was the cause of extreme suffering.

"Are we ascending to a living fire?" I cried; when, to my horror and astonishment, the heat became greater than before.

"No, no," said by uncle, "it is simply impossible, quite impossible."

"And yet," said I, touching the side of the shaft with my naked hand, "this wall is literally burning."

At this moment, feeling as I did that the sides of this extraordinary wall were red hot, I plunged my hands into the water to cool them. I drew them back with a cry of despair. "The water is boiling!" I cried.

My uncle, the Professor, made no reply other than a gesture of rage and despair. Something very like the truth had probably struck his imagination.

An invincible dread took possession of my brain and soul. I could only look forward to an immediate catastrophe, such a catastrophe as not even the most vivid imagination could have thought of. An idea, at first vague and uncertain, was gradually being changed into certainty. It was so terrible an idea that I scarcely dared to whisper it to myself. Yet all the while certain, and as it were, involuntary observations determined my convictions. By the doubtful glare of the torch, I could make out some singular changes in the granitic strata; a strange and terrible phenomenon was about to be produced, in which electricity played a part. Then this boiling water, this terrible and excessive heat? I determined as a last resource to examine the compass.

The compass had gone mad! Yes, wholly stark, staring mad. The needle jumped from pole to pole with sudden and surprising jerks, ran round, or as it is said, boxed the compass, and then ran suddenly back again as if it he had the vertigo.

Terrible detonations, like heaven's artillery, began to multiply themselves with fearful intensity. I could only compare them with the noise made by hundreds of heavily-laden chariots being madly driven over a stone pavement. It was a continuous roll of heavy thunder.

They are in the Volcanic Shaft of a Crater in Full Action

AND then the mad compass, shaken by the wild electric phenomena, confirmed me in my rapidly formed opinion. The mineral crust was about to burst, the heavy granite masses were about to rejoin, the fissure was about to close, the vent was about to be filled up, and we poor atoms to be crushed in its awful embrace! "Uncle, uncle!" I cried, "we are wholly, irretrievably lost!"

"What, then my young friend, is your new cause of terror and alarm?" he said, in his calmest manner. "What fear you now?"

"What do I fear now!" I cried, in fierce and angry tones. "Do you not see that the walls of the shaft are in motion? do you not see that the solid granite masses are cracking? do you not feel the terrible, torrid heat? do you not observe the awful boiling water on which we float? do you not remark this mad needle? every sign and portent of an awful earthquake?"

My uncle coolly shook his head. "An earthquake?" he questioned in the most calm and provoking tone.

"Yes."

"My nephew, I tell you that you are utterly mistaken," he continued.

"Do you not, can you not, recognize all the well-known symptoms——"

"Of an earthquake?" by no means. I am expecting something far more important."

"My brain is strained beyond endurance—what, what do you mean?" I cried.

"An eruption, Harry."

"An eruption," I gasped. "We are, then, in the volcanic shaft of a crater in full action and vigor."

"I have every reason to think so," said the Professor in a smiling tone, "and I beg to tell you that it is the most fortunate thing that could happen to us."

The most fortunate thing! Had my uncle really and truly gone mad? What did he mean by these awful words—what did he mean by this terrible calm, this seeming smile? "What!" cried I, in the height of my exasperation, "we are on the way to an eruption, are we? Fatality has cast us into a well of burning and boiling lava, of rocks on fire, of boiling water, in a word, filled with every kind of eruptive matter? We are about to be expelled, thrown up, vomited, spit out of the interior of the earth, in common with huge blocks of granite, with showers of cinders and scoriæ, in a wild whirlwind of flame, and you say—the most fortunate thing which could happen to us."

"Yes," replied the Professor, looking at me calmly from under his spectacles, "it is the only chance which remains to us of ever escaping from the interior of the earth to the light of day."

It is quite impossible that I can put on paper the thousand strange, wild thoughts which followed this extraordinary announcement. But my uncle was right, quite right, and never had he appeared to me so audacious and so convinced as when he looked me calmly in the face and spoke of the chances of an eruption—of our being cast upon mother earth once more through the gaping crater of a volcano!

It is Not a Shaft of Sneffels

WHILE we were speaking we were still ascending; we passed the whole night going up, or to speak more scientifically, in an ascensional motion. The fearful noise redoubled. I was ready to suffocate. I seriously believed that my last hour was approaching, and I bet, so strange is imagination, all I thought of was some childish hypothesis or other. In such circumstances you do not choose your own thoughts. They overcome you.

It was quite evident that we were being cast upwards by eruptive matter; under the raft there was a mass of boiling water, and under this was a heaving mass of lava, and an aggregate of rocks which on reaching the summit of the water would be dispersed in every direction. That we were inside the chimney of a volcano there could no longer be the shadow of a doubt. Nothing more terrible could be conceived!

But on this occasion, instead of Sneffels, an old and extinct volcano, we were inside a mountain of fire in full activity. Several times I found myself asking, what mountain was it, and on what part of the world we should be shot out. As if it were of any consequence! In the northern regions, there could be no reasonable doubt about that. Before it went decidedly mad, the compass had never made the slightest mistake. From the cape of Saknussem, we had been swept away to the northward many hundreds of leagues. Now the question was, were we once more under Iceland—should we be belched forth on to the earth through the crater of Mount Hecla, or should we reappear through one of the other seven fire-funnels of the island? Taking in my mental vision a radius of five hundred leagues to the westward, I could see under this parallel only the little-known volcanoes of the northwest coasts of America. To the east one only existed somewhere about the eightieth degree of latitude, the Esk, upon the island of Jean Mayen, not far from the frozen regions of Spitzbergen. It was not craters that were wanting, and many of them were big enough to vomit a whole army; all I wished to know was the particular one towards which we were making with such fearful velocity. I often think now of my folly; as if I should have expected to escape!

Towards morning, the ascending motion became greater and greater. If the degree of heat increased instead of decreasing, as we approached the surface of the earth, it was simply because the causes were local and wholly due to volcanic influence. Our very style of locomotion left in my mind no doubt upon the subject. An enormous force, a force of some hundred of combined atmospheres produced by vapors accumulated and long compressed in the interior of the earth, were hoisting us upwards with irresistible power.

But though we were approaching the light of day, to what fearful dangers were we about to be exposed? Instant death appeared the only fate which we could expect or contemplate.

The Worst Period of the Ascent

SOON a dim, sepulchral light penetrated the vertical gallery, which became wider and wider. I could make out to the right and left long dark corridors like immense tunnels, from which awful and horrid vapors poured out. Tongues of fire, sparkling and crackling, appeared about to lick us up. The hour had come!

"Look, uncle, look!" I cried.

"Well, what you see are the great sulphurous flames. Nothing more common in connection with an eruption."

"But if they lap us round!" I angrily replied.

"They will not lap us round," was his quiet and serene answer.

"But it will be all the same in the end if they stifle us," I cried.

"We shall not be stifled. The gallery is rapidly becoming wider and wider, and if it be necessary, we will presently leave the raft and take refuge in some fissure in the rock."

"But the water, the water, which is continually ascending?" I despairingly replied.

"There is no longer any water, Harry," he answered, "but a kind of lava paste, which is heaving us up, in company with itself, to the mouth of the crater."

In truth, the liquid column of water had wholly disappeared to give place to dense masses of seething eruptive matter. The temperature was becoming utterly insupportable, and a thermometer exposed to this atmosphere would have marked between 189 and 190 degrees Fahrenheit. Perspiration rushed from every pore. But for the extraordinary rapidity of our ascent we should have been stifled.

Nevertheless, the Professor did not carry out his proposition of abandoning the raft; and he did quite wisely. Anyway, those few ill-joined beams offered a solid surface—a support which elsewhere must have utterly failed us.

Towards eight o'clock in the morning a new incident startled us. The ascensional movement suddenly ceased. The raft became still and motionless. "What is the matter now?" I said querulously, very much startled by this change.

"A simple halt," replied my uncle.

"Is the eruption about to fail?" I asked.

"I hope not."

Without making any reply, I rose. I tried to look around me. Perhaps the raft, checked by some projecting rock, opposed a momentary resistance to the eruptive mass. In this case, it was absolutely necessary to release it as quickly as possible.

Nothing of the kind had occurred. The column of cinders, of scoriæ, of broken rocks and earth, had wholly ceased to ascend. "I tell you, uncle, that the eruption has stopped," was my oracular decision.

"Ah," said my uncle, "you think so, my boy. You are wrong. Do not be in the least alarmed; this sudden moment of calm will not last long, be assured. It has already endured five minutes, and before we are many minutes older we shall be continuing our journey to the mouth of the crater."

All the time he was speaking the Professor continued to consult his chronometer, and he was probably right in his prognostics. Soon the raft resumed its motion, in a very rapid and disorderly way, which lasted two minutes or thereabout; and then again it stopped as suddenly as before. "Good," said my uncle, observing the hour, "in ten minutes we shall start again."

"In ten minutes?"

"Yes—precisely. We have to do with a volcano, the eruption of which is intermittent. We are compelled to breathe just as it does.

A Long, Lasting Delirium as Escape Approaches

NOTHING could be more true. At the exact minute he had indicated, we were again launched on high with extreme rapidity. Not to be cast off the raft, it was necessary to hold on to the beams. Then the hoist again ceased. Many times since have I thought of this singular

phenomenon without being able to find for it any satisfactory explanation. Nevertheless, it appeared quite clear to me, that we were not in the principal chimney of the volcano, but in an accessory conduit, where we felt the counter-shock of the great and principal tunnel filled by burning lava.

It is impossible for me to say how many times this maneuver was repeated. All that I can remember is, that on every ascensional motion, we were hoisted up with ever-increasing velocity, as if we had been launched from a huge projectile. During the sudden halts we were nearly stifled; during the moments of projection the hot air took away our breath.

I thought for a moment of the voluptuous joy of suddenly finding myself in the hyperborean regions with the cold 30 degrees below zero! My exalted imagination pictured to itself the vast snowy plains of the arctic regions, and I was impatient to roll myself on the icy carpet of the north pole. By degrees my head, utterly overcome by a series of violent emotions, began to give way to hallucination. I was delirious. Had it not been for the powerful arms of Hans the guide, I should have broken my head against the granite masses of the shaft.

I have, in consequence, kept no account of what followed for many hours. I have a vague and confused remembrance of continual detonations, of the shaking of the huge granitic mass, and of the raft going round like a spinning top. It floated on the stream of hot lava, amidst a falling cloud of cinders. The huge flames roaring, wrapped us around.

A storm of wind which appeared to be cast forth from an immense ventilator roused up the interior fires of the earth. It was a hot incandescent blast!

At last I saw the figure of Hans as if enveloped in the huge halo of burning blaze, and no other sense remained to me but that sinister dread which the condemned victim may be supposed to feel when led to the mouth of a cannon, at the supreme moment when the shot is fired and his limbs are dispersed into empty space.

CHAPTER XLIII

Daylight At Last

WHEN I opened my eyes I felt the hand of the guide clutching me firmly by the belt. With his other hand he supported my uncle. I was not grievously wounded, but bruised all over in the most remarkable manner. After a moment I looked around, and found that I was lying down on the slope of a mountain not two yards from a yawning gulf into which I should have fallen had I made the slightest false step. Hans had saved me from death, while I rolled insensible on the flanks of the crater.

"Where are we?" dreamily asked my uncle, who literally appeared to be disgusted at having returned to earth. The eider-down hunter simply shrugged his shoulders as a mark of total ignorance.

"In Iceland?" I replied, not positively but interrogatively.

"*Nej*," said Hans.

"How do you mean?" cried the Professor; "no—what are your reasons?"

"Hans is wrong," said I, rising.

After all the innumerable surprises of this journey, a yet more singular one was reserved to us. I expected to see a cone covered by snow, by extensive and wide-spread glaciers, in the midst of the arid deserts of the extreme northern regions, beneath the full rays of a polar sky, beyond the highest latitudes. But contrary to all our expectations, I, my uncle, and the Icelander, were cast upon the slope of a mountain calcined by the burning rays of a sun which was literally baking us with its fires. I could not believe my eyes, but the actual heat which affected my body allowed me no chance of doubting. We came out of the crater half naked, and the radiant star from which we had asked nothing for two months, was good enough to be prodigal to us of light and warmth—a light and warmth we could easily have dispensed with.

When our eyes were accustomed to the light we had lost sight of so long, I used them to rectify the errors of my imagination. Whatever happened, we should have been at Spitzbergen, and I was in no humor to yield to anything but the most absolute proof.

After some delay, the Professor spoke. "Hem!" he said, in a hesitating kind of way, "it really does not look like Iceland."

"But supposing it were the island of Jean Mayen?" I ventured to observe.

"Not in the least, my boy. This is not one of the volcanoes of the north, with its hills of granite and its crown of snow."

"Nevertheless——"

On the Surface of the Earth at Last

"LOOK, look, my boy," said the Professor, as dogmatically as usual. Right above our heads, at a great height, opened the crater of a volcano from which escaped, from one quarter of an hour to the other, with a very loud explosion, a lofty jet of flame mingled with pumice stone, cinders, and lava. I could feel the convulsions of nature in the mountain, which breathed like a huge whale, throwing up from time to time fire and air through its enormous vents.

Below, and floating along a slope of considerable angularity, the stream of eruptive matter spread away to a depth which did not give the volcano a height of three hundred fathoms. Its base disappeared in a perfect forest of green trees, among which I perceived olives, fig trees, and vines loaded with rich grapes. Certainly this was not the ordinary aspect of the Arctic regions. About that there could not be the slightest doubt.

When the eye was satisfied at its glimpse of this verdant expanse it fell upon the waters of a lovely sea or beautiful lake, which made of this enchanted land an island of not many leagues in extent. Towards the setting sun, some distant shores were to be made out on the edge of the horizon. In one place appeared a prodigiously lofty cone, above the summit of which hung dark and heavy clouds.

"Where can we be?" I asked, speaking in a low and solemn voice.

Hans shut his eyes with an air of indifference, and my uncle looked on without clearly understanding. "Whatever this mountain may be," he said, at last, "I must confess it is rather warm. The explosions do not leave off, and I do not think it is

worth while to have left the interior of a volcano and remain here to receive a huge piece of rock upon one's head. Let us carefully descend the mountain and discover the real state of the case. To confess the truth, I am dying of hunger and thirst."

Decidedly the Professor had ceased to be a truly reflective character. For myself, forgetting all my necessities, ignoring my fatigues and sufferings, I should have remained still for several hours longer—but it was necessary to follow my companions.

Where are They? An Interview with a Child.

THE slope of the volcano was very steep and slippery; we slid over piles of ashes, avoiding the streams of hot lava which glided about like fiery serpents. Still, while we were advancing, I spoke with extreme volubility, for my imagination was too full not to explode in words, "We are in Asia!" I exclaimed; "we are on the coast of India, in the great Malay islands in the center of Oceana. We have crossed the one half of the globe to come out right at the antipodes of Europe!"

"But the compass!" exclaimed my uncle; "explain that to me!"

"Yes—the compass," I said, with considerable hesitation. "I grant that is a difficulty. According to it, we have always been going northward."

"Then it lied."

"Hem—to say it lied is rather a harsh word," was my answer.

"Then we are at the north pole——"

"The pole—no—well—well, I give it up," was my reply. The plain truth was, that there was no explanation possible. I could make nothing of it.

All the while we were approaching this beautiful verdure, hunger and thirst tormented me fearfully. Happily, after two long hours' march, a beautiful country spread out before us, covered by olives, pomegranates, and vines, which appeared to belong to anybody and everybody. In the state of destitution into which we had fallen, we were not particular to a grape.

What delight it was to press these delicious fruits to our lips, and to bite at grapes and pomegranates fresh from the bough. Not far off, near some fresh and mossy grass, under the delicious shade of some trees, I discovered a spring of fresh water, into which we voluptuously plunged our faces, hands and feet.

While we were all giving way to the delights of new-found pleasures, a little child appeared between two tufted olive trees. "Ah," cried I, "an inhabitant of this happy country."

The little fellow was poorly dressed, weak and suffering, and appeared terribly alarmed at our appearance. Half-naked, with tangled, matted and ragged beards, we did look supremely ill-favored; and unless the country was a bandit land, we were not unlikely to alarm the inhabitants!

Just as the boy was about to take to his heels, Hans ran after him, and brought him back, despite his cries and kicks. My uncle tried to look as gentle as possible, and then spoke in German. "What is the name of this mountain, my friend?"

The child made no reply.

"Good," said my uncle, with a very positive air of conviction, "we are not in Germany." He then made the same demand in English, of which he was an excellent scholar.

The child shook its head and made no reply.

"Is he dumb?" cried the Professor, who was rather proud of his polyglot knowledge of languages, and making the same demand in French. The boy only stared in his face.

"I must perforce try him in Italian," said my uncle, with a shrug. *"Dove siamo?"*

"Yes, tell me where we are?" I added, impatiently and eagerly.

Again the boy remained silent.

Stromboli! Stromboli!

"MY fine fellow, do you or do you not mean to speak?" cried my uncle, who began to get angry. He shook him and spoke another dialect of the Italian language. *"Come si chiama questa isola?"*—what is the name of this island?

"Stromboli," replied the rickety little shepherd, dashing away from Hans and disappearing in the olive groves.

Stromboli! What effect on the imagination did these few words produce! We were in the center of the Mediterranean; amid the Eastern archipelago of mythological memory; in the ancient Strongylos, where Æolus kept the wind and the tempest chained up. And those blue mountains, which rose towards the rising of the sun, were the mountains of Calabria. And that mighty volcano which rose on the southern horizon was Etna, the fierce and celebrated Etna!

"Stromboli! Stromboli!" I repeated to myself. My uncle played a regular accompaniment to my gestures and words. We were singing together like an ancient chorus. Ah—what a journey—what a marvelous and extraordinary journey! Here we had entered the earth by one volcano, and we had come out by another. And this other was situated more than twelve hundred leagues from Sneffels, from that drear country of Iceland cast away on the confines of the earth. The wondrous chances of this expedition had transported us to the most harmonious and beautiful of earthly lands.

After a delicious repast of fruits and fresh water, we again continued our journey in order to reach the port of Stromboli. To say how we had reached the island would scarcely have been prudent. The superstitious character of the Italians would have been at work, and we should have been called demons vomited from the infernal regions. It was therefore necessary to pass for humble and unfortunate shipwrecked travelers. It was certainly less striking and romantic, but it was decidedly safer.

"As we advanced, I could hear my worthy uncle muttering to himself—"But the compass. The compass most certainly marked north. This is a fact I cannot explain in any way."

"Well, the fact is," said I, with an air of disdain, "we must not explain anything. It will be much more easy."

"I should like to see a professor of the Johanneum Institution, who is unable to explain a cosmic phenomenon—it would indeed be strange." And speaking thus; my uncle, half-naked, his leathern purse round his loins, and his spectacles upon his

nose, became once more the terrible Professor of Mineralogy.

An hour after leaving the wood of olives, we reached the fort of San Vicenza, where Hans demanded the price of his thirteenth week of service. My uncle paid him, with many warm shakes of the hand.

At that moment, if he did not indeed quite share our natural emotion, he allowed his feelings so far to give way as to indulge in an extraordinary expression for him. With the tips of two fingers he gently pressed our hands and smiled.

CHAPTER XLIV

The Journey Ended

THIS is the final conclusion of a narrative which will probably be disbelieved even by people who are astonished at nothing. I am, however, armed at all points against human incredulity.

We were kindly received by the Strombolite fishermen, who treated us as shipwrecked travelers. They gave us clothes and food. After a delay of forty-eight hours, on the 31st of September a little vessel took us to Messina, where a few days of delightful and complete repose restored us to ourselves.

On Friday, the 4th of October, we embarked in the *Volturus*, one of the postal packets of the Imperial Messagerie of France; and three days later we landed at Marseilles, having no other care on our minds than that of our precious but erratic compass. This inexplicable circumstance tormented me terribly. On the 9th of October, in the evening, we reached Hamburg.

What was the astonishment of Martha, what the joy of Gretchen! I will not attempt to define it. "Now Harry, that you really are a hero," she said, "there is no reason why you should ever leave me again." I looked at her. She was weeping tears of joy.

I leave it to be imagined if the return of Professor Hardwigg made or did not make a sensation in Hamburg. Thanks to the indiscretion of Martha, the news of his departure for the Interior of the Earth had been spread over the whole world.

No one would believe it—and when they saw him come back in safety they believed it all the less. But the presence of Hans and many stray scraps of information by degrees modified public opinion. Then my uncle became a great man, and I the nephew of a great man; which, at all events, is something. Hamburg gave a festival in our honor. A public meeting of the Johanneum Institution was held, at which the Professor related the whole story of his adventures, omitting only the facts in connection with the compass.

That same day he deposited in the archives of the town the document he had found, written by Saknussem, and he expressed his great regret that circumstances, stronger than his will, did not allow him to follow the Icelandic traveler's track into the very Center of the Earth. He was modest in his glory, but his reputation only increased.

So much honor necessarily created for him many envious enemies. Of course they existed, and as his theories, supported by certain facts, contradicted the system of science upon the question of central heat, he maintained his own views both with pen and speech against the learned of every country. Although I still believe in the theory of central heat, I confess that certain circumstances, hitherto very ill-defined, may modify the laws of such natural phenomena.

A Happy Ending

AT the moment when these questions were being discussed with interest, my uncle received a rude shock—one that he felt very much. Hans, despite everything he could say to the contrary, quitted Hamburg; the man to whom we owed so much would not allow us to pay our deep debt of gratitude. He was taken with nostalgia; a love for his Icelandic home. *"Farvel,"* said he, one day, and with this one short word of adieu, he started for Reykjawik, which he soon reached in safety.

We were deeply attached to our brave eider-duck hunter. His absence will never cause him to be forgotten by those whose lives he saved, and I hope, at some not distant day, to see him again.

To conclude, I may say that our Journey into the Interior of the Earth created an enormous sensation throughout the civilized world. It was translated and printed in many languages. All the leading journals published extracts from it, which were commentated, discussed, attacked, and supported with equal animation by those who believed in its episodes, and by those who were utterly incredulous. Wonderful! My uncle enjoyed during his lifetime all the glory he deserved; and he was even offered a large sum of money by Mr. Barnum, to exhibit himself in the United States; and I am credibly informed by a traveler that he is to be seen in waxwork at Madame Tussaud's!

But one care preyed upon his mind, a care which rendered him very unhappy. One fact remained inexplicable—that of the compass. For a learned man to be baffled by such an inexplicable phenomenon was very aggravating. But heaven was merciful, and in the end my uncle was happy. One day, while he put some minerals belonging to his collection in order, I fell upon the famous compass and examined it keenly. For six months it had lain unnoticed and untouched. I looked at it with curiosity, which soon became surprise. I gave a loud cry. The Professor, who was at hand, soon joined me.

"What is the matter?" he cried.

"The compass!"

"What then?"

"Why, its needle points to the south and not to the north."

"My dear boy, you must be dreaming."

"I am not dreaming. See the poles are changed."

"Changed!"

My uncle put on his spectacles, examined the instrument, and leaped with joy, shaking the whole house. A clear light fell upon our minds.

"Here it is!" he cried, as soon as he had recovered the use of his speech. "Our error is now easily explained. But to what phenomenon do we owe this alteration in the needle!"

"Nothing more simple."

"Explain yourself, my boy. I am on thorns."

"During the storm, upon the Central Sea, the ball

(*Continued on page 384*)

DR. HACKENSAW'S SECRETS

By Clement Fezandié

The SECRET of the INVISIBLE GIRL

Seizing the opportunity, he shot the loop of his lariat over her shoulders . . . the girl . . . hung dangling helpless, from the rope.

CHAPTER I

A Strange Offer

"DOCTOR Hackensaw, I'm looking for a place."

"I'm sorry, my friend, but we have no vacancy at present."

"My name is Phessenden Keene. Although I left school at the age of fifteen, I have studied at home and have the equivalent of a college education. I am very anxious to study inventing, and having heard a great deal about your marvelous inventions, I should like very much to work for you."

"I'm sorry, but as I said before, there is no vacancy at present. In fact, this is the dull season and I have more men on hand now than I know what to do with."

Phessenden Keene smiled. "I know," said he, "that you have no vacancy for an ordinary man, but I am sure you have one for me!"

Doctor Hackensaw looked up in surprise at this conceited statement and was about to make an angry reply, but a look at the clean-cut, intelligent features of the young man before him, caused him to hold his tongue. The young fellow evidently had a strong will, for he continued:

"I know my own value better than you know it. I am so sure that you have a vacancy for me that I am willing to come to work for you for nothing."

"Thank you," replied Doctor Hackensaw, coldly, "but I desire to pay my assistants for their work. Besides, as I said before, there is no work for you to do."

"I'll find work," replied the young man confidently,—"and plenty of it. Besides, I am willing to do all the dirtiest and most disagreeable work on the place. I will black the boots, clean out the spittoons or the drains, attend to the furnace, shovel snow and so on. I will be your porter and carry heavy bundles for you to any part of the city."

Miss Pep Speaks

"GIVE him a trial, Pop," whispered Miss Pep Perkins, who, seated at her typewriter, had overheard the conversation and was pleased with the young man's looks.

"How can you live if I don't pay you any salary?" asked Doctor Hackensaw of the young man.

"I have a couple of hundred dollars laid by that I saved penny by penny from my wages on a ranch, where I worked for a while. I can make that last me for a year, and I know that long before that time I can convince you that my services are invaluable."

"And if I am not convinced?"

"In that case, I won't ask for anything."

"Very well, I'll engage you on your own terms. You are to do all the hardest and most disagreeable work on the place and are not to receive a cent in return."

"Thank you."

"When will you begin?"

"Right away! I see the windows in the next room haven't been washed for a month. I'll begin by cleaning those—" and five minutes later, provided with a pail of water and a rag, the young fellow was industriously polishing away at the windows, which soon shone as they had never shone before.

"Well, Pep," asked the doctor, "what do you think of that young fellow and his proposition?"

"I don't know what to think, but I like his looks."

"So do I. But for all that he may be a burglar, and may be choosing this means to learn where all the valuables on the place are kept. I have millions of dollars worth of unpatented ideas that an intelligent chap like him could steal."

"He looks like an honest fellow."

"Looks don't count for much. The only other explanation I can see for his offer, is that he has fallen in love with you, Pep, and has chosen this way of coming near you." And Doctor Hackensaw smiled mischievously.

"Nonsense!" cried Pep, blushing, but seemingly not at all displeased with the idea.

Whatever the reason, young Keene soon made his services veritably invaluable. He came early and stayed late and worked industriously all the time. One of his first jobs was to make a grand house-cleaning. Room by room he went over the whole establishment, opening every neglected cupboard and cleaning it thoroughly. He timed his work so well, and did it so neatly as never to occasion discomfort to anyone. He did more. He made a card catalogue of every document and every object in the place with a hieroglyph, to indicate where the thing was to be found. It was soon learned that if anyone wanted some particular thing, there was no sense in hunting for it, for Keene could lay his hands on it in a minute.

MAKING one's self invisible has always been one of the great fascinations to the human race. And no wonder! Imagine all the mischief we could make, all the eavesdropping we could do, and all the secrets we could unravel!

Scientifically speaking, it is not impossible to make a body invisible. Recent experiments made by a New England professor of chemistry show that when certain liquids are injected into organic tissues, they become practically transparent. The professor succeeded in making small animals entirely transparent and practically invisible. Who knows that in the future, by some means of chemicals, combined with certain rays, it may not be possible for us to make ourselves entirely invisible?

We are sure you will enjoy the latest Dr. Hackensaw Exploit of the Invisible Girl. How would YOU catch an invisible person? But nothing is impossible to Dr. Hackensaw, so see how he did it!

CHAPTER II

The Z-Ray Photograph

"DOCTOR HACKENSAW, I've got something peculiar to show you!"

The speaker was Phessenden Keene, bronzed from sunburn, and just returned from a trip to Central Africa, where he had been sent on a confidential mission by the doctor.

Keene was now Doctor Hackensaw's right-hand man. His declaration that he would make himself indispensable was no vain boast. Before he had been in the doctor's service a week, it was evident that he was a man of extraordinary abilities and energy. Doctor Hackensaw, however, in order to make the test thorough, kept him at work a whole month, without any salary. At the end of that time, he made him a princely offer for

his services, and needless to say, the boot-blacking and spittoon-cleaning ceased immediately. The man was too valuable to be allowed to spend his time in such duties.

Finally, the doctor, needing a confidential man to send to Africa, had entrusted Keene with the mission. Poor Pep Perkins was broken-hearted at his departure, because her admiration for this unique specimen of a man was unbounded. She had at last found a man who made her heart go "tick-tack!"

Keene was now back from Africa, and it was after his business report that he exclaimed:

"Doctor Hackensaw, I've got something peculiar to show you."

"What is it?" asked the Doctor.

"It's a little memento I brought back from my African trip. As you know, I had with me some of the special cameras you invented for taking photographs at night without the need of flash-lights."

"Yes," said Doctor Hackensaw. "I gave you photographic plates of two kinds. I gave you plates that were sensitive to electric emanations so that you could take photos of the 'aura' that surrounds living beings."

"Precisely," said Silas. "What you call the Z-ray plates. Well, the curious thing I have to show you is one of the Z-ray photographs I took near Mongalla. I think you will find it rather curious!"

So saying, Phessenden Keene took from his pocket a photograph which he handed to the doctor, and Pep left cleaning her typewriter in order to get a better view.

A Young Girl and Her Aura

THE photograph represented what appeared to be a beautiful young girl in a state of nature, but surrounded by an aura of electric emanations.

"Well, what is there peculiar about this?" asked the doctor. "It's just an ordinary photograph of a young lady, taken on a special plate in order to show the 'aura'".

"No, indeed," replied Keene. "I took that snapshot in bright sunlight, and not a trace of a girl could I see. It was a bird I was photographing and I hadn't the faintest idea there was a girl anywhere near me. Doctor Hackensaw, do you believe there are such things as invisible creatures?"

"Well, yes there are. In the water there are certain animals like jelly-fishes that are so transparent that they are practically invisible. Among the animalcules too, there are many whose small size renders them invisible, and there are some that are so transparent that we cannot see them until they are stained even with a microscope. That is what makes it so difficult to discover the specific microbe that causes a disease. We must find some stain that will make the microbe visible, and this isn't always easy. The celebrated Ehrhardt had to try no less than 606 different stains before he found one that would color the microbes that cause syphilis. Once he found the proper stain, however, he was able to incorporate drugs with it, and was thus enabled to have his drugs carried into the bodies of the microbes. But, while invisible beings are common in the microscopic world, we know of no large invisible animals."

"Then the original of this photograph is the first one," said Keene, "and I wish to ask your permission to return to Africa and try to capture her."

"Why didn't you try while you were over there?"

"I unfortunately didn't develop the negative until after my return to the United States."

"Well," assented the Doctor. "A search for an invisible girl is worse than a search for a needle in a haystack, but the thing is so curious that we ought to make the attempt. I'll order my rapid aeroplane and Pep and I will go with you."

CHAPTER III

Bunches of Bananas for Bait

"HERE we are, Doctor," exclaimed Phessenden Keene. "This is the very spot where I took the snapshot, as you can see by comparing it with the photograph."

"Even now," said Pep, "I don't see how we can ever hope to find the invisible girl. Pep spoke of its being as hard as looking for a needle in a haystack, but it seems to me much harder."

"Yes," assented the doctor, "but to a scientist there would be no difficulty in finding a needle in a haystack. He would merely spread out the hay and pass a strong electro-magnet over it, and in a few minutes the needle would be found clinging to the magnet."

"Perhaps so," said Pep, "but at least you can see the needle when you do find it. Here we can't see the girl and even if she were right in front of us and we took a snapshot of her with the Z-rays, she would probably be gone by the time the negative was developed."

Doctor Hackensaw smiled. "You forget, Pep," said he, "that we have other senses besides the sense of sight. Besides there are ways of making the invisible visible. Don't imagine for an instant that I have come unprepared. I have in fact several strings to my bow. You will remember that we stopped awhile in Mongalla and I heard news there that will be of use to us. Hunting parties out after lions or elephants have noticed the mysterious disappearance of their provisions. Bunches of bananas disappear, and also the strips of hippopotamus meat that they hang up to dry. This knowledge will be very useful to us. The girl evidently has no way of obtaining provisions except by stealing them, hence a bunch of fine bananas would make a tempting bait."

"Oh!" exclaimed Pep, "that's the reason you loaded up the aeroplane with such quantities of bunches of bananas!"

"Precisely. Our first job is to locate the girl. To do this we will hang up small bunches of bananas at likely spots near the White Nile, where she must go for water. And when tomorrow we find one or two of the bunches missing we may strongly suspect one invisible girl of being the culprit."

It was no easy task tramping through the wilds, for caution was necessary, as lions, leopards and elephants abounded in the region and even the crocodiles were dangerous, the post-boat captain having informed our adventurers that he had had two of his men devoured by crocodiles the past year.

The Animals' Dread of Man

FORTUNATELY, most of the wild animals had acquired a real wholesome dread of man. Even a herd of elephants would fly from a single person. It is a curious sight to see a herd of these huge monsters quietly feeding when a single man comes to windward of them. First one trunk goes up into the air as the man's scent is wafted to the herd. Then another and another trunk is raised and moves about until the direction of the scent is located. Then the whole herd marches briskly away at a rate no ordinary hunter can attain.

When all the bait was hung up, carefully suspended out of the reach of elephants, the party returned in their airplane to Mongalla to spend the night. The next morning they returned to examine the bait, and to their joy they found several of the bunches of bananas missing. In most of the places no tracks could be found in the hard earth, but near one of the trees a small foot-print could be plainly discerned in the sand.

"There's our young lady!" cried the Doctor, "and I propose that we name her 'Lily Foote.' It will be handy to have some name to know her by."

"Yes, when we catch her," muttered Pep to herself.

"Now," said the Doctor, "the problem is, shall we try to trap her here, or shall we follow her to her den, for she must have a lair somewhere, safe from the wild beasts?"

"How could you follow her?" asked Keene. "It would be easy enough if we had a good dog, but you can get nothing of the kind here."

"I have something better than a dog," answered Doctor Hackensaw, "I have my trusty old 'super-nose' or smell amplifier. It is really nothing but a series of half a dozen specially constructed addions designed to amplify smells instead of sounds."

Calling one of his Nubian servants, Doctor Hackensaw took from one of the bags a small case, which we fastened like a knapsack on his back. Two tubes projected from the instrument—one somewhat rigid with a flaring end, which the Doctor held over the scent. The other tube ended in a small mask which fitted over the Doctor's nose. Thus equipped, Doctor Hackensaw could follow a scent better than the very best hunting dog.

Nearing the Quarry

STARTING at the foot-print, the doctor had no difficulty in picking up the trail, and started along it, followed by his friends and the negro porters. For several miles he pursued his quarry in this manner when he came to a tall tree and then paused and looked up into the branches. Nothing was visible.

"She climbed up here," said the Doctor, "and is here yet, unless she came down on the other side." He made a rapid tour of the tree and then returned. "She is still up in the tree. All we've got to do now is to catch her!"

"Yes, that's all," returned Keene, sarcastically. "But how are you going to catch a girl you can't see? I brought a lariat with me, but how are you going to lasso a girl unless you can see her?"

"I have an answer for that," returned Doctor Hackensaw, "for I have brought with me several pairs of specially constructed 'Electrical Spectacles'."

"What are they?"

"They are spectacles so constructed that they make electrical emanations visible. This invisible girl is, as we know by her photograph, surrounded by an aura. These spectacles will make that aura visible to us, and it will be our own fault if we do not catch the girl."

A moment later, the Doctor, Pep and Keene were each equipped with the unique spectacles and were gazing intently up the tree. But the girl was well concealed in the leaves and they could see nothing.

"Never mind, I'll climb up with my lariat, and if I see her, we'll soon have her. I've lassoed plenty of wild cattle on the ranches out West."

A moment later, the young fellow, with his slip-noose in his hand, was ascending the tree, while Pep and the Doctor looked eagerly from below.

"I see her!" cried Keene, and as he shouted the words, a rustling in the leaves was heard.

"I see her too," cried Pep, "or rather I see what looks like the shadow of a girl. She's coming down the tree, letting herself drop from branch to branch like a monkey."

It was a most peculiar sight, the aura of this invisible girl as she rapidly descended. But she was no match for a western cowboy like Keene. He watched her descent, bracing himself against the trunk of the tree, and seizing his opportunity, shot the loop of his lariat over her shoulders and pulled it tight. The girl made a spring, but hung dangling helpless from the rope.

"I've got her," cried Keene, "I'll let her down to you carefully, but I recommend you to tie her tightly until we can get her into the cage we brought for her. She looks like a slippery customer!"

CHAPTER IV

Conclusion

"HERE we are, back in New York again!" cried Doctor Hackensaw, gaily, five days later, as his swift aeroplane entered its hangar. Our first job now will be to teach Aura to speak."

Aura was the name that had finally been decided upon for the invisible girl. "Lily Foote" did not seem very satisfactory. The girl evidently possessed a language of her own and a few Arabic and Shilluck words that she had evidently overheard the natives use, but otherwise knew nothing and owned nothing. As Miggs expressed it, when they found her, "she didn't even have a pagoda on." (He evidently meant kimono). Miggs had been the airplane pilot on their expedition.

Doctor Hackensaw, with his usual foresight, had realized that if they caught the girl they would have to have some means of making her visible. Accordingly he had brought along a trousseau for her. It didn't fit very well, but was more suitable than the electric aura which had been her sole garment previously. To render her face visible, he had also brought along a vanity-case, and when her cheeks were powdered and her lips painted, and she was attired in modern costume, you couldn't have told her from an ordinary girl except for the absence of

(*Continued on page 381*)

The Man Who Could Work Miracles

By H. G. WELLS

(Concluded)

and waters filled earth and sky, and peering under his hand through the dust and sleet to windward, he saw by the play of the lightnings a vast wall of water pouring towards him.

"Maydig!" screamed Mr. Fortheringay's feeble voice amid the elemental uproar. "Here!—Maydig!

"Stop!" cried Mr. Fotheringay to the advancing water. "Oh, for goodness sake, stop!

"Just a moment," said Mr. Fotheringay to the lightnings and thunder. "Stop jest a moment while I collect my thoughts. . . And now what shall I do?" he said. "What *shall* I do? Lord! I wish Maydig was about.

"I know," said Mr. Fotheringay. "And for goodness sake let's have it right *this* time."

He remained on all fours, leaning against the wind, very intent to have everything right.

"Ah!" he said. "Let nothing what I'm going to order happen until I say "Off!" . . . Lord! I wish I'd thought of that before!"

He lifted his little voice against the whirlwind, shouting louder and louder in the vain desire to hear himself speak. "Now then!—here goes! Mind about that what I said just now. In the first place, when all I've got to say is done, let me lose my miraculous power, let my will become just like anybody's else's will, and all these dangerous miracles be stopped. I don't like them. I'd rather I didn't work 'em. Ever so much. That's the first thing. And the second is—let me be back just before the miracles begin; let everything be just as it was before that blessed lamp turned up. It's a big job, but it's the last. Have you got it? No more miracles, everything as it was—me back in the Long Dragon just before I drank my half-pint. That's it! Yes."

He dug his fingers into the mould, closed his eyes, and said "Off!"

Everything became perfectly still. He perceived the he was standing erect.

CHAPTER X.

Back in the Long Dragon

"SO *you* say," said a voice.

He opened his eyes. He was in the bar of the Long Dragon, arguing about miracles with Toddy Beamish. He had a vague sense of some great thing forgotten that instantaneously passed. You see that, except for the loss of his miraculous powers, everything was back as it had been, his mind and memory therefore were now just as they had been at the time when this story began. So that he knew absolutely nothing of all that is told here—knows nothing of all that is told here to this day. And among other things, of course, he still did not believe in miracles.

"I tell you that miracles, properly speaking, can't possibly happen," he said, "whatever you like to hold. And I'm prepared to prove it up to the hilt."

"That's what *you* think," said Toddy Beamish, and "Prove it if you can."

"Looky here, Mr. Beamish," said Mr. Fotheringay, "Let us clearly understand what a miracle is. It's something contrariwise to the course of nature done by power of Will. . . ."

THE END.

Experts Join Staff of "Amazing Stories"

IT will come as good news that two scientifiction experts have joined the staff as Literary Editors of AMAZING STORIES.

The name of Wilbur C. Whitehead, the greatest Auction Bridge expert in the United States, will come as a surprise to many. Nevertheless, this famous man is a scientification fan of the first rank. There are few works of scientifiction with which he is not familiar, and he is just as much an expert in this type of literature as in his native Bridge. Mr. Whitehead is the author of the following books on Bridge, and also editor of the "Work-Whitehead Auction Bridge Bulletin": "Auction Bridge Standards", "Auction Bridge Summary", "Complete Auction Bridge", and "Authoritative Leads and Conventions of Playing."

Every great man has a hobby, and Mr. Whitehead is no exception. His hobby happens to be scientifiction and all that goes with it. We congratulate our readers upon the acquisition of Mr. Whitehead. It means a great deal to the future editorial policy of AMAZING STORIES. It means, in short, the best.

Mr. C. A. Brandt, who has also joined the editorial staff, is, in our opinion, the greatest living expert on scientifiction. At least we do not know of any one else who has practically every piece of scientifiction that was ever published, in his library. Mr. Brandt has on his book shelves, complete volumes, and short stories taken from many publications—all scientifiction. We believe that this collection of this type of literature can not be equalled by any one, because he made a study, not only of works in the English language, but also in the German, French, and Scandinavian languages.

There is not a work of this kind that has appeared during the last fifty years, with which Mr. Brandt is not fully conversant. This is, of course, a tremendous asset to a publication of the type of AMAZING STORIES, and one which assures you of getting the best that can be had at all times.

By having the advantage of such an expert editorial board, AMAZING STORIES is convinced that whenever new stories from new writers are received they will have expert treatment, and that, of course, is very necessary when dealing with a new literature of this kind.

By GARRETT P. SERVISS

(Concluded)

The Last Fight of Dr. Syx

"BUT it took me a long time, and I did not reach the rift in the summit until just before sundown. Knowing that it would be impossible for me to descend at night, I bethought me of the enclosure of rocks, supposed to have been made by Indians, on the western pinnacle, and decided that I could pass the night there.

"The perpendicular buttress forming the easternmost and highest point of the Teton's head would have baffled me but for the fact that I found a long crack, probably an effect of the tremendous explosion, extending from bottom to top of the rock. Driving my toes and fingers into this rift, I managed, with a good deal of trouble, and no little peril, to reach the top. As I lifted myself over the edge and rose to my feet, imagine my amazement at seeing Dr. Syx standing within arm's-length of me!

"My breath seemed pent in my lungs, and I could not even utter the exclamation that rose to my lips. It was like meeting a ghost. Notwithstanding the many reports of his having been seen in various parts of the world, it had always been my conviction that he had perished in the explosion.

"Yet there he stood in the twilight, for the sun was hidden by the time I reached the summit, his tall form erect, and his black eyes gleaming under the heavy brows as he fixed them sternly upon my face. You know I never was given to losing my nerve, but I am afraid I lost it on that occasion. Again and again I strove to speak, but it was impossible to move my tongue. So powerless seemed my lungs that I wondered how I could continue breathing.

"The doctor remained silent, but his curious smile, which, as you know, was a thing of terror to most people, overspread his black-rimmed face and was broad enough to reveal the gleam of his teeth. I felt that he was looking me through and through. The sensation was as if he had transfixed me with an ice-cold blade. There was a gleam of devilish pleasure in his eyes, as though my evident suffering was a delight to him and a gratification of his vengeance. At length I succeeded in overcoming the feeling which oppressed me, and, making a step forward, I shouted in a strained voice,

"'You black Satan!'

"I cannot clearly explain the psychological process which led me to utter those words. I had never entertained any enmity towards Dr. Syx, although I had always regarded him as a heartless person, who had purposely led thousands to their ruin for his selfish gain, but I knew that he could not help hating me, and I felt now that, in some inexplicable manner, a struggle, not physical, but spiritual, was taking place between us, and my exclamation, uttered with surprising intensity, produced upon me, and apparently upon him, the effect of a desperate sword thrust which attains its mark.

"Immediately the doctor's form seemed to recede, as if he had passed the verge of the precipice behind him. At the same time it became dim, and then dimmer, until only the dark outlines, and particularly the jet-black eyes, glaring fiercely, remained visible. And still he receded, as though floating in the air, which was now silvered with the evening light, until he appeared to cross the immense atmospheric gulf over Jackson's Hole and paused on the rim of the horizon in the east.

"Then, suddenly, I became aware that the full moon had risen at the very place on the distant mountain-brow where the spectre rested, and as I continued to gaze, as if entranced, the face and figure of the doctor seemed slowly to frame themselves within the lunar disk, until at last he appeared to have quitted the air and the earth and to be frowning at me from the circle of the moon."

While Hall was pronouncing his closing words I had begun to stare at the moon with swiftly increasing interest, until, as his voice stopped, I exclaimed,

"Why, there he is now! Funny I never noticed it before. There's Dr. Syx's face in the moon, as plain as day."

"Yes," replied Hall, without turning round, "and I never like to look at it."

THE END

New Scientifiction Stories

IF you are interested in scientifiction stories, you will find several excellent ones in AMAZING STORIES' sister magazines, RADIO NEWS and SCIENCE AND INVENTION.

RADIO NEWS for July contains *"Sam Jones, Radio Tube Bootlegger,* by Volney G. Mathison.

A story of the bad old days when there were sharp practices in radio—and how some of the practitioners came to grief in carrying out their designs upon the unwary public. If it is not true, it is well enough invented to convey a moral to radio-set owners in their purchasing of supplies.

In SCIENCE AND INVENTION, *"Tarrano the Conqueror,"* by Ray Cummings, has been running for several months. The author of this story also wrote *"The Girl in the Golden Atom," "Around the Universe,"* and *"The Man on the Meteor." "Tarrano the Conqueror"* is one of the weirdest and most amazing stories it has ever been our good fortune to read.

Copies of RADIO NEWS and SCIENCE AND INVENTION may be secured at all newsstands, and back numbers can be obtained from the publishers. Address Experimenter Publishing Co., 53 Park Place, New York City.

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From

GEORGE ALLAN ENGLAND

Author of "The Thing from Outside."

Mr. H. Gernsback, June 4, 1926
Editor, "AMAZING STORIES,"
New York City.

Dear Mr. Gernsback:

I cannot thank you too cordially for the opportunity you give me to say something in approval of your plan to print scientific fiction. This is supposed to be the Age of Science, and the more widely scientific ideas are spread, the better. Fiction is certainly one of the most effective methods of disseminating scientific ideas.

The world is too much given over to silly, meaningless and licentious fiction. The type of stories you propose to print can do much to combat this evil tendency. Moreover, such stories will wage war on the reactionary campaign now going on. The saying that "Science has conquered the world" is unfortunately far from true. Only a very small percentage of people have as yet accepted scientific thought with all its implication. The masses still cling to worn-out old religious dogmas that even an elementary knowledge of science would destroy. Schools and churches still keep the hoary old superstitions alive, and actively fight to do so. The clergy realize that the real triumph of science would oust them from soft sinecures; bluntly put, from their graft. Today, they are seeking, with some success, to have time taken from school-hours, for religious instruction. They are backing the fight, in many states, to have science prohibited in the schools and colleges. An era of reaction is upon us. "Science Service," and your magazines, are doing noble work, which should by all means be extended. If the "black beetles of superstition" had their way, evolution would be banished from modern thought. This must not be. The war is on, and you stand on the firing-line.

For years I have advocated the teaching of evolution in grammar-schools, high schools and academies, as well as in universities. This one study would drive the inanities of superstition out of court, with ridicule. By all means, Mr. Gernsback, publish all the scientific fiction you can, especially with bearing on evolution. The clergy can dominate educational systems, but they cannot control magazines. If the people cannot be reached through the schools, they can through the magazines. Your work is of immense importance.

With all good wishes for your unqualified success, and with the faith that untimately "truth is mighty and will prevail," I am as ever,

Most cordially yours,

GEORGE ALLAN ENGLAND

Bradford, N. H.

The Scientific Adventures of Mr. Fosdick

By JACQUE MORGAN

The Feline Light and Power Company is Organized

(Concluded)

mendous electrical pressure with which he was charged.

A bolt of sheet rubber was passed in the next morning, however, and Fosdick set to work fashioning some insu g shoes for John L. These were mpleted by noon and the fifty thousa d morbid spectators that had come in by special trains breathlessly watched the experiment. Rubber-shod, the cat was dropped to the ground—and it survived. A great cheer went up from the crowd. This had no sooner subsided than Prof. Snooks realized that a terrible mistake had been made. Hastily grabbing a megaphone from a barker of one of the numerous side shows that had set up their tents everywhere, he addressed the crowd. He told them that John L. was at liberty charged with perhaps a hundred million volts of electricity, and that contact with him could mean but one thing—death. Instantly there was a wild commotion in the terrorized crowd and then a wild flight from the awful peril. By nightfall the railroads had deported thirty-nine train loads of people and, save for the few that could find rubber boots, the streets of Whiffleville were as lifeless as the shady paths of the neighboring cemetery.

Rubber and rubber alone could protect them against the deadly menace of John L. This, all realized. A thoughtless humanitarian, Bill Hitchcock by the name, made rubber boots for his three dogs. One of the dogs that very afternoon, spying John L., set sail for him and although he managed only to touch the tail of the cat he became charged with the deadly electrical pressure. And worse, the dog coming home rubbed noses with Hitchcock's other two dogs, charging them. With three electrical dogs and one electrical cat at large only the foolhardy ventured abroad.

Casualties Multiplied and the Two Charged Subjects Are Still in Captivity

WITHIN the next twenty-four hours there were a number of casualties. About nine in the evening Old Tige, the largest of the dogs, came in contact with a lamp post. The post was instantly fused off even with the ground and the gas became ignited, making a geyser of flame that shot a hundred feet heavenward. The dog died. Later in the night another one of the dogs ran against a barbwire fence, killing ten head of stock four miles away. That dog also died. At daybreak there was a loud explosion in the outskirts of the town. It is thought that this came from a cat fight in which John L. participated. At any rate he has never been seen since and to-day only a pathetic hole in the ground marks his probable last battlefield.

The remaining dog was captured at great peril to life, and turned over to Prof. Snooks for experimental purposes. By gradually drawing off the electrical charge by means of a condenser, the Professor in a week's time reduced the dog's pressure to approximately five thousand volts and then the animal was further discharged by hooking him up to the town arc light system of fifty lamps which he maintained in the splendid effulgence of over two thousand candle power for a period of nine hours and eleven minutes before his power ran down.

Mr. Fosdick and Mr. Stetzle are now living on two insulated stools in the laboratory of Doolittle College. Their potential is dropping at the rate of ten volts a day, and Prof. Snooks has calculated that they must remain there for the next 957 years, three months and two days before being fully discharged. It seems a great pity.

THE END

In Preparation:

These stories will soon appear in "AMAZING STORIES."

"A Columbus of Space," By Garrett P. Serviss

"The Martian Way," By Capt. H. G. Bishop, U. S. A.

"Vanishing Movies," By Teddy G. Holman

"Advanced Chemistry," By Jack G. Huekels

"The Diamond Lens," By Fitz-James O'Brien

"The Second Deluge," By Garrett P. Serviss

"Hick's Inventions with a Kick," By H. Simon

"The White Gold Pirate," By Merlin Moore Taylor

"The Purchase of the North Pole," By Jules Verne

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The Eggs from Lake Tanganyika

By CURT SIODMAK

(*Concluded*)

"Thirteen. Eleven are dead. The other two will never escape alive. They are fed up with the poison-gas."

"Thank you." Meyer-Maier hung up the receiver. "Very well," he murmured, "now there can be no question of any danger, for each fly can only lay three or four eggs at once,—not a million."

An immense weariness overcame him. He went into his bed-room and fell exhausted on his bed. "It is well that there is a supreme wisdom which controls the laws of nature. Otherwise the world would be subject to the strangest surprises." He thought of the monsters and crept anxiously under the bed-clothes. "I'll entrust Schmidt-Schmitt with the investigation of the creature phenomenon, I simply can't stand further excitement."

And sleep spread the mantel of well-deserved quiet over him.

THE END

A Trip to the Center of the Earth

By JULES VERNE

(*Concluded*)

of fire which made a magnet of the iron in our raft, turned our compass topsy-turvy."

"Ah!" cried the Professor, with a loud and ringing laugh, "it was a trick of that inexplicable electrcity."

From that hour my uncle was the happiest of learned men, and I the happiest of ordinary mortals. For my pretty Virland girl, abdicating her position as ward, took her place in the house in Königstrasse in the double quality of niece and wife. We need scarcely mention that her uncle was the illustrious Professor Hardwigg, corresponding member of all the scientific, geographical, mineralogical and geological societies of the five quarters of the globe.

THE END

The Magnetic Storm

By HUGO GERNSBACK

(*Concluded*)

FRENCH

L'éclateur rotatif et les bouteilles de Leyde: Rotary spark gap and Leyden jars.

Le Président de la République: The President of the Republic.

Monsieur le Président! Attention! Allez! Mr. President! Ready! Go!

Messieur, le jour de gloire est arrivé; vive la France! Gentlemen, the day of glory has arrived, long live France!

(This is partly from the second verse of the "Marseillaise")

Le "cirque" du Baron d'Unterrichter! hors de combat!: Baron von Unterrichter. They are out of the fighting!

Monsieur le Président, toute "armée Allemande" est en retraite: Mr. President, the entire German army is in retreat.

THE END

Doctor Hackensaw's Secrets

By JACQUES MORGAN

(*Concluded*)

visible eyes. A pair of spectacles, however, concealed this defect.

Phessenden Keene fell in love with Aura at first sight, and poor Pep was madly jealous, for in the whole-souled breezy westerner she had at last found a man who had won her heart. But she was a good girl and managed to conceal her feelings. She was very good indeed to her rival who evidently returned Keene's affections.

Keene spent hours teaching Aura how to speak, and also training her in the elements of civilization, for she knew less than a child.

Unfortunately, the climate of New York did not agree with her. She who in the tropics could stand a dry heat of 120° F., suffered under a damp heat of 90° F and three months after her arrival in the United States, she became ill, and in spite of Doctor Hackensaw's strenuous efforts to save her, died.

Keene was inconsolable for a long time, but some years later he married Pep, and the pair were very happy together. Migg's heart almost broke a the time, for he was devoted to Pep, but he finally consoled himself with a peroxide blonde.

As for Doctor Hackensaw, he is still alive and still continues making his wonderful inventions.

THE END